







EX-PRESIDENT ROOSEVELT SHOOTING A BULL RHINOCEROS ON THE AFRICAN VELD.

THE GREAT
ROOSEVELT
AFRICAN HUNT

AND

THE WILD ANIMALS OF AFRICA

Their appearance, habits, traits of character, and every
detail of their wild life; with

Thrilling, Exciting, Daring and Dangerous
Exploits of

Hunters of Big Game
in Wildest Africa

By

Prof. AXEL LUNDEBERG and FREDERICK SEAMOUR
Noted Author and Traveler. *Renowned Hunter and Naturalist.*

RICHLY ILLUSTRATED

With over 200 Half-Tone Engravings

Made especially for this volume, many of them from photographs
of wild animals taken in their native African homes.

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AUTHOR'S PREFACE.

The American hunting expedition to the wilds of British East Africa, described on the following pages, is one of the most remarkable undertakings of the Twentieth Century. Never before was an attempt made on so large a scale to explore the wilderness of Africa and secure first-class specimens of its wonderful animal world, now fast disappearing before the advancing steps of European civilization. Add to this the unusual and extraordinary attention this famous enterprise has aroused in the whole civilized world, owing to the fact that at its head stands America's national hero and one of the greatest hunters, sportsmen and naturalists of our time—Theodore Roosevelt—and my readers will admit that a more fascinating and entertaining book than the story of the great Roosevelt African hunt has never been within their reach.

I have spent many years of my life traveling in foreign countries and thereby became intimately acquainted with animal life in almost every part of our globe. It is my firm conviction that no study is more ennobling and elevating than that of God's animal kingdom. And I hold that next to visiting foreign countries and observing their fauna with one's own eyes, nothing can be more instructive and apt to enlarge the horizon of our minds than the study of books of travel and natural history. And especially is this true when the author's descriptions are illustrated by faithful photographic reproductions of the objects he has seen. And the publishers of this work have been fortunate enough in securing original and first-hand photographs of all animals here described. The reader thereby is introduced to the lion, the hippopotamus, the rhinoceros, the elephant, and all the rest of the inhabitants of the African velt or jungle just as they actually appeared to Colonel Roosevelt and the other members of the American expedition. He meets with the living reality. Africa's wonderful animal world is brought right to his library or sitting-room. This book, therefore, is a standard work of great merit. My descriptions of the animals are founded partly on my own extensive experience,

partly on first-hand information received from well-known naturalists. All sensational features are excluded. Nothing but fully authenticated facts is told.

It has been the author's ambition and effort to produce a work on the unfortunately soon extinct wonderful animal world of Africa that would, so to say, perpetuate this vanishing feature of our globe in word and picture. May this magnificent African panorama become a welcome guest in every American home, and may it furnish our growing generation with an invigorating and wholesome spiritual nourishment and be an incitement to brave and noble deeds and love of nature both in young and old.

AXEL LUNDEBERG.





TABLE OF CONTENTS.

THE ROOSEVELT HUNT.

| | |
|--|--|
| Why He Went to Africa. | Hunting big game as a young man—His first book, "Hunting Trips of a Ranchman"—Universally known as hunter among sportsmen of the world—White House interviews with hunters of big game—Decision for African trip made two years before close of presidential term..... |
| Voyage to Mombasa. | Members of hunting party—Incidents of the voyage—Stops at Naples and Messina—Meets King Victor Emmanuel—Arrival and enthusiastic reception at Mombasa..... |
| Hunting Preparations and Outfit. | Hunter's license—Refuses special privileges—Employing native helpers—Wages paid, supplies furnished, fresh meat required daily |
| Bravest Native Hunters of Africa. | Command highest pay—No fear of death—Great fidelity to employers when peril threatens—Terrible fight with wounded lion.... |
| The True African Sportsman. | Hazard of limb and life—Violent charges of lion, buffalo, elephant and rhinoceros—Hunter's intense scorn for cowardice..... |
| Scope of the Roosevelt Hunting Grounds. | Embraces every variety of country—plain, jungle, swamp, forest, and hill—Swarms with game—Over fifty varieties, not excelled anywhere in the world—The hunter's paradise—Magnificent ranches and private hunting grounds..... |
| Awful Cost of the Uganda Railroad. | Great cost in money, and greater cost in human lives—Awful toll collected by disease, poisonous insects, reptiles, carnivorous beasts, warlike natives, the tsetse fly that causes the fatal sleeping sickness, and the man-eating lion |
| Special Object of the Expedition. | Aim to collect natural history specimens for Smithsonian Institution..... |
| Roosevelt's Guns and Ammunition. | Preparations for bagging big and small game. |
| Off on the Roosevelt Safari. | The busy two days spent at Mombasa prior to departure for the hunting grounds..... |

MOMBASA TO NAIROBI.

| | |
|--|---|
| Old Mombasa, or the Battle City. | Picturesque jungle of old and new Africa—Its history—Captured and recaptured alternately by Portuguese and Arabs until protected by Great Britain..... |
| New Mombasa, the British Capital. | Net-work of tramways—Coolies and aristocratic Europeans—Hearty welcome for visitors—Harbor at Kilindini, two miles southeast |
| Climbing the Desert of Taru to Voi. | The Uganda railroad—Nairobi—Large depots and docks at Kilindini—Great Iron Bridge—Cocoonut palms and mangroves, well kept plantations, and native huts..... |

- Taru Desert and Old Caravan Route.** Old road viewed from Roosevelt's speeding train—A desert, but not destitute of animal life.....
- Glorious Mount Kilimanjaro.** Highest peak in Africa, 19,200 above sea—Government road—Bungalow for tourists—Climbing the mountain from a heat of 110°, to snow and glaciers at the top.....
- How the Game is Killed in Reserves.** Safe from human hunters, but a slaughter pen for small and peaceable game by big and ferocious animals—Antelopes, zebras, ostriches and giraffes swarm here, but great numbers are required to satisfy the bloodthirsty appetites of lions, leopards, hyenas and jackals.....
- The Run from Voi to Kapiti Plains.** Great hunt started April 22nd on Ranch of Sir Alfred Pease on the Athi River—Guard of honor at station—Personnel of the party—His camp in the Mau Hills—First lion hunt—Roosevelt's joy over his first killing—Kermit a good second—Animals killed by the party in this region—Kermit and his camera also effective—Off for the Juja Ranch of W. N. McMillan, east of Nairobi.....
- Country from Kapiti Plains to Nairobi.** Up toward the great hunting grounds near headwaters of the Athi River—The spill-over of game from the reserves.....
- Nairobi, Chicago of East Africa.** Headquarters of the Uganda Railroad—Shops, iron works and native workers, also military and political headquarters—Telegraph and telephone center—Automobiles and good hotels—Electric lights glitter in the eyes of wild lions and jackals—A hospitable city to African travelers.....

ROOSEVELT HUNTING GROUNDS.

- Nairobi, the Great Outfitting Point.** Hunting expeditions or caravan parties arrive and depart daily—Porters loaded with trophies of the chase—European and Hindu merchants
- Hospitable Planters of the Hunter's Paradise.** Great estates—Juja farm, 20,000 acres—E. W. Jackson, Sir Alfred Pease, William N. McMillan royal entertainers—Roosevelt pleased with their kindness and help.....
- Beauties of the Mount Kenia Region, Eastern Limits of the Hunt.** Gorgeous colors in blossoms, groves of wild olives—Granite spires swarming with little gray monkeys—Safe from the wild beasts—Glorious cloud effects—A land of surprises—Chosen home of the rhinoceros—The shy and pretty Colobus monkey
- Tracking, Attacking and Killing the Big Game.** Distinguishing the spoor, or tracks, of lion, elephant, buffalo, rhino, hippo and antelope.....
- Tracking Big Game by Their Droppings and Browsings.** These, with the story of the spoor, lead the hunter to his quarry—Different signs on trees and shrubbery left by the elephant, rhinoceros, buffalo and antelope.....
- Charms of the Lion Chase.** Human wit against animal instinct—Usually minds his own business unless attacked, but most wise and uncertain of big beasts—Comparative advantages of riding the lion, or hunting him afoot—His whirlwind rush pronounced by hunters the "swiftest thing on earth".....
- Blind Charge of the Black Rhinoceros.** Does not wait to be attacked—Tears through whole caravans—Almost blind, but among the first to scent "tainted air"—Loves to lurk in dark places.....
- Terrific Onslaught of the Buffalo.** The hereditary foe of the lion—Knows he is favored meat for the king of beasts—One of the most tenacious of life among the beasts..
- Sable Antelope.** The great dog killer—Also sometimes drives his spear-like horns through the hunter's body.....
- Hartbeests and Gnus.** Their wonderful staying qualities—No horse can compare with them—Shot through the lungs, they still gallop out of sight—White bearded wildebeest—Jackson's hartbeest—Coke's hartbeest and other varieties common to the Roosevelt hunting grounds.....

NEW AFRICA.

- In Black and White.** Scattering villages of Wanytka—Generally agricultural, but sometimes dangerous—Murder of Thomas London and execution of natives.....
- Wakamba, Largest Tribe of East Africa.** Farmers and herdsmen and only tribe to hold their own against the warlike Masai.....
- The Warlike Masai.** Prowess as lion hunters—Dance in honor of a young man who killed a lion armed only with a spear—Gamblers, like other "black men".....
- The Kikuyu.** An unreliable tribe between Nairobi and Mount Kenia.....
- Naked Tribes at the Head of Victoria Nyanza.** Bronze Models of physical perfection—Moral and peaceable people.....
- The Nandi Tribe.** Stole telegraph wire for bracelets and earrings and railroad bolts for spear heads.....
- Native Kingdom of Uganda.** A well organized state under the protection of Great Britain—The Japanese of Africa and their king—A land of cotton, cocoa, coffee, oranges, lemons, pineapples and general fertility—People eager for knowledge...
- White Belt.** British, Germans, Americans and Boers—From Nairobi to Port Florence a region of farms and plantations—Nakuru, the chief Boer colony—Old-time foes peaceful farmers
- Great Scenic Section of the Uganda Railway.** Rises over two thousand feet the first twenty-four miles
- Escarpment Station Overlooking Great Rift Valley, 1,500 Feet Below.** A railroad pitching over a cliff—Valley of volcanic hills and craters—A country of escarpments, or abrupt land pitches—A slumbering volcano—Old rope lift for travelers to this weird region.....
- On to Kijabe, Well Named "The Wind."** A bleak station—Ride of the Roosevelt party on the cow catcher from Kikuyu—Shoot Colobus monkeys near Kijabe—Roosevelt visits the African Inland Mission.....
- Lovely and Mysterious Lake Naivasha Beyond.** Bright blossoms on its bosom—In its midst an almost submerged crater—The home of myriad of water fowl—Surrounded by big game and great herds of sheep and goats—Its islands great breeding grounds for herons.....
- Government Breeding Farm for Zebras Near Lake Naivasha.** Efforts to solve the horse problem in Africa by producing a zebra hybrid.....
- Nakuru and Its Charming Lake.** A rich grass country surrounding a salt lake—Along the Mau escarpment and over twenty-seven huge viaducts built by American engineers—A country of Boer farmers.....
- From Fort Ternan to Port Florence.** Last section of Uganda Railroad through a swampy but fertile country.....
- The Approach to Port Florence and Lake Victoria Nyanza Disappointing.** Port Florence, a transfer station from railroad to steamer.....
- Big Hunting Grounds to the North.** Along the Nzoia River and around the southern base of Mount Elgon—A famous lion country—Riding down His Kingship—Herds of giraffe and Jackson's hartbeest—Following a lion into cover.....
- Across the Lake to Entebbe.** British capital of the Uganda Protectorate—A carefully planned city—Charming location and surroundings of "The Chair"—Shores blazing with color—Island gems in the blue lake.....
- The Sleeping Sickness.** Beautiful district densely populated by natives eight years ago now devastated—Laboratory and hospital at Entebbe—Treatment of the disease—Its inoculator, the tsetse fly—Its symptoms and mortality—Koch's investigations
- Roosevelt's Host and Hostess at Entebbe.** Judge George F. M. Ennis, head of the judicial system of the Uganda Protectorate, and his wife (née Miss Ethel Kirkland of Chicago)—Formal reception by Sir Hesketh Bell, the governor—Home entertaining by Mrs. Ennis, Entebbe's only American—Roosevelt's God-speed toward the Nile and civilization.....

| | |
|--|-----|
| Lion Hunting in Africa. Roosevelt meets the King of the African Forests in his native jungle—Three lions bagged in one day—Interesting facts about the lion..... | 103 |
| The Mountain Lion. The mountain lion, a savage enemy to horses and sheep—A mountain lion cries when caught with a lasso and shot..... | 127 |
| The African Buffalo. The delights of the buffalo hunt as experienced by Mr. Roosevelt and other sportsmen—His first encounter with this ferocious animal—The story of the buffalo | 131 |
| Story of the Fossa. Largest flesh-eating animal of Madagascar—Species of the cat family—Its long tail and fierce disposition..... | 145 |
| Hunting the Elephant. Elephant charges ex-President—His narrow escape from death—Dangers and excitement of the elephant hunt—The story of the elephant..... | 148 |
| The Ship of the Desert. The camel not a wild animal, but African—The carrier of commerce of Northern Africa—Lives for many days without food and drink—How the camel is loaded—A caravan in the desert..... | 166 |
| The Scavenger Hyena. Kermit rides down a hyena—Habits of this carrion-eating beast—The scavengers of the velt and steppes..... | 175 |
| The Wild Sheep. Roosevelt hunting the big horn—A leap of one hundred and fifty feet down a precipice—Sheep on "the roof of the world"—Wild sheep playing hide and seek with the natives..... | 179 |
| The Mongoose. Where found in Africa—An all-around fighter—Hater of snakes—Kills a poisonous cobra—Clears Cuba and Porto Rico of rats..... | 185 |
| The Caracal, or African Lynx. A sportsman's stories about the African lynx—Tamed cubs—The lynx catching jack rabbit—Its valuable fur—It catches birds on the wing—"Lynx-eyed" | 191 |
| Hippopotamus Hunting. Colonel Roosevelt's thrilling adventure and narrow escape on Lake Naivasha—He kills two huge hippopotami..... | 195 |
| The Wild Boar. Boars often mistaken for lions—Dangerous sport for hunters—Furious charge on horses, elephants and camels—Fight between a wild hog and a snake.... | 205 |
| The Porcupine. A nocturnal animal, bristling with long spines—Will not run from foe—Rolls itself in a ball when attacked—Cannot show its quills—Savages use quills as decorations..... | 211 |
| Story of the Wapi. A strange animal discovered in Central Africa—Has the body of a horse, head of a giraffe and stripes like a zebra..... | 215 |
| The African Jackal. The ancestor of our dog—Hunts at night—Harmless, but kills chickens, lambs, rabbits and small antelopes..... | 219 |
| The Monkey Family. Roosevelt bags a white-tailed Colobus monkey—Facts about this curious animal—The gorilla, the chimpanzee and other more or less man-like apes—Africa the paradise of the monkey..... | 223 |
| The Gorilla. Habits—Comparison with man—Its distinct eyebrows and lashes—Mouth, nose and cheeks marked with wrinkles—Protruding jaw—A "bull-necked" animal—Method of killing gorillas..... | 251 |
| The Story of the Lemur. Closely related to the monkey—Many varieties—Native of Madagascar—Arboreal habits—Queer eyes and ghostlike looks..... | 255 |
| Story of the Mole. The most marvelous of all burrowing animals—Lives underground—Has remarkable hands—A look into its burrow..... | 262 |
| Hunting the Rhinoceros. Colonel Roosevelt reported killed by a rhinoceros—Exciting fight with this ferocious beast—The natives praise Bwana Tumbo—Interesting facts about the rhinoceros..... | 267 |
| Wart-Hog's Native Haunts. Mr. Roosevelt kills a wart-hog—The ugliest animal he saw in Africa—The story of this beast..... | 279 |
| Story of the Linsang. A most beautifully colored animal with thick and velvety fur—Long bodies and slender necks..... | 284 |
| Story of the Fox. A cunning animal—How the fox runs and climbs trees—A fox foils a hunter and a pack of hounds—The pretty little fennec of Africa..... | 287 |

| | |
|--|-----|
| The Weasel. A blood-thirsty and courageous animal—Eats rats and birds—Scent like a dog—How African weasels tantalize lions..... | 293 |
| Hunting the Giraffe. Mr. Roosevelt bags two bull giraffes and Kermit rides down and kills one—Difficulties in hunting this long-sighted and wary animal—Peculiar habits of the giraffe..... | 297 |
| The African Leopard. Colonel Roosevelt bags a leopard—Captures cubs alive—Kermit's good luck—He kills a leopard at a distance of twelve feet—Facts about this blood-thirsty feline | 303 |
| The Crocodile. East African rivers full of crocodiles—Hated by the natives—How the crocodile is hunted and trapped—The alligator..... | 311 |
| The Civet. Hides by day and prowls at night—Hunted for its fine perfumery—Its tail longer than head and body combined—Civets taking up their abode in a house.... | 322 |
| Hunting the Antelope. Colonel Roosevelt bags a gnu, or wildebeest, on Alfred Pease's estate—Excitement and danger of the hunt—His first victim on African soil—Facts about the many varieties of antelope that crowd the East African velt..... | 327 |
| The Zebra or Tiger-Horse. Colonel Roosevelt secures a zebra for the National Museum—Natives hunt them for food—A herd of zebras on the velt—Hundreds of them in East Africa | 351 |
| Africa's Greatest Bird. Mr. Roosevelt's visit to Sir Alfred Pease's ostrich farm—The story of this wonderful bird..... | 357 |
| The Story of the Lizard. Some harmless and some poisonous—Loves to bask in the sun—Frenzied by love, rage and hunger—Grows a new tail when mutilated..... | 365 |
| The Story of the Shrew. A little insect-eater—At home in all temperate regions—Fond of fighting—A victim of owls—Lives underground..... | 371 |
| Story of the Hedgehog. An animal covered with spikes—Rolls itself into a ball—Farmers believe that it sucks cows—Kills and eats snakes—Feeds on worms and snakes.. | 375 |
| The Wild Goat. A wary animal frequenting high mountains—Sure-footed and odorous—Sentinels keep watch while the flock feeds..... | 379 |
| The Aard-Vark or Ant-Bear. The ugly and ungraceful earth-hog has a long prehensile tongue—Found on the Roosevelt hunting grounds in East Africa..... | 383 |
| Story of the Pangolin. Looks like a living pine cone—Lives on ants—How hunted—Its habits | 385 |
| The Story of the Tenrec. Eats insects and resembles a hedge-hog—Pest to Madagascar farmers—Its flesh a great delicacy..... | 387 |
| Hunting the Gazelle. Colonel Roosevelt receives a Thompson gazelle for the National Museum—Many varieties of the gazelle family—East Africa's most graceful animal | 391 |
| The Caffre Cat. The ancestor of the domestic cat—A native of Africa and Asia—Worshipped by the Egyptians..... | 399 |
| Closing Incidents of the Roosevelt African Hunt. Search for the White Rhinoceros and other game—Interesting experiences in wildest and darkest Africa—Uganda and the Congo Free State—Down the Nile..... | |



LIST OF ILLUSTRATIONS.

| | |
|--|-----|
| Ex-President Roosevelt Shooting a Bull Rhinoceros on the African Velt..... | 2 |
| Photograph of Lion Face..... | 6 |
| Roosevelt Meets a Rhinoceros..... | 7 |
| Roosevelt and Lion..... | 14 |
| A Wounded Stag Turning on the Hunter..... | 16 |
| Roosevelt and Herd of Hippopotami..... | 33 |
| Route of Roosevelt's African Travels..... | 35 |
| Native Troops of East Africa..... | 36 |
| Natives Waiting for Meat..... | 38 |
| Roosevelt Hunting Grounds..... | 42 |
| A Fine Lioness..... | 44 |
| An Extra Fine Feast for the Boys..... | 46 |
| The Ostrich and African Crowned Crane..... | 49 |
| Mombasa and the Old Portuguese Fort..... | 51 |
| Zebra Attacked by a Lion..... | 54 |
| Roosevelt's Arrival at Kapiti Plains..... | 57 |
| Head-Piece—Roosevelt Hunting Grounds..... | 63 |
| Waterfall—Tana River District..... | 64 |
| Hippopotami Basking in the Sun..... | 65 |
| Curing Strips of Antelope Meat After a Hunt..... | 66 |
| Warriors, Women and Children Waiting to Greet the Great American..... | 69 |
| The Hunter's Paradise..... | 73 |
| An Old Elephant Killed Near Mt. Elgon..... | 76 |
| Skinning an Eland Antelope..... | 77 |
| Trophies of the Hunt..... | 79 |
| A Family of Lions..... | 83 |
| Masai Wives Building a New Village..... | 85 |
| Going for His Bride—Riding the Cow That Is to Pay for Her..... | 86 |
| Young Man Honored for Killing a Lion..... | 88 |
| Playing Bao | 89 |
| Roosevelt Viewing the Country Along the Uganda Railway..... | 95 |
| Port Florence | 98 |
| Crocodile Caught on the Shore of Victoria Nyanza..... | 101 |
| An East African Farm..... | 103 |
| Black-Maned East African Lion..... | 104 |
| Ex-President Roosevelt Killing His First Lions in East Africa..... | 105 |
| A Safari on March Through East African Wilderness..... | 108 |

LIST OF ILLUSTRATIONS.

xiii

| | |
|--|-----|
| African Lion | 111 |
| Lion Cubs and Their Habits..... | 113 |
| A Troop of Lions Seen in South Africa..... | 115 |
| The Maneless Lion of Senegal..... | 117 |
| Lion Cubs That Look Like Lambs..... | 119 |
| A Playful Old Lion..... | 121 |
| The King of Beasts Drinking at a Pool..... | 123 |
| Sir Edwin Landseer's World-Famous Painting of a Lion..... | 124 |
| A Perfect Specimen of a Full-Grown Lion..... | 125 |
| Head-Piece—The Mountain Lion..... | 127 |
| Mountain Lion, Treed..... | 128 |
| A Perfect Specimen of Mountain Lion..... | 129 |
| Buffalo Hunters in East Africa..... | 131 |
| A Visit for the Exchange of Presents..... | 133 |
| A Family of American Buffalo or Bison..... | 135 |
| American Buffaloes—Methods of Hunting Them..... | 137 |
| European Buffaloes Fighting..... | 139 |
| Arnee Buffalo of Assam..... | 141 |
| Common Indian Buffalo..... | 142 |
| Cape Buffaloes | 143 |
| Head-Piece—Story of the Fossa..... | 145 |
| The Fossa | 146 |
| An Ivory and Palm Oil Caravan..... | 148 |
| Skinning an Elephant..... | 151 |
| Native Hunter's Camp in the Jungle..... | 152 |
| Female Indian Elephant..... | 155 |
| Indian Elephant Trumpeting..... | 157 |
| African Elephant | 159 |
| Baby Elephant of the Soudan..... | 161 |
| Scenes in an Elephant's Life..... | 162 |
| One of Mr. Seymour's Hunting Elephants..... | 163 |
| Herd of African Elephants..... | 165 |
| Bactrian Camel of Central Asia..... | 169 |
| Arabian Camels | 171 |
| A Baby Camel..... | 173 |
| Photographs of Hyena Heads..... | 175 |
| Spotted Hyena | 177 |
| Head-Piece—Story of the Wild Sheep..... | 179 |
| A Mouflon Family..... | 181 |
| A Mouflon of Sardinia..... | 182 |
| "Big Horns" of the Rocky Mountains..... | 183 |
| Barbary, or Maned Sheep..... | 184 |
| How the Mongoose Fights..... | 186 |
| Indian Mongooses | 187 |
| South African Mongooses or Meerkats..... | 189 |
| The Caracal or Desert Lynx..... | 192 |
| The Canada Lynx..... | 193 |
| Ex-President Roosevelt Meets Twelve Hippopotami..... | 197 |
| Dragging the Hippo to Shore..... | 198 |
| Natives Dragging the Hippo to Camp | 199 |
| Kaverondo Women Dragging Hippopotamus Head to Village for Their Chief..... | 200 |
| The Hippopotamus | 203 |
| East African Wild Hog | 206 |
| A Family of Wild Hogs | 207 |
| Wild Hog of the Philippines..... | 208 |
| South African Wild Hog | 209 |
| Porcupines of Siam | 212 |
| Porcupines of Morocco | 213 |
| Head-Piece—Story of the Wapi..... | 215 |

| | |
|--|-----|
| The Wapi or Okapi | 217 |
| The European Jackal | 220 |
| Arabian Wolf Jackal | 221 |
| Jackals of Siam | 222 |
| Mount Kilimanjaro | 223 |
| Colobus Monkey | 225 |
| Five Beauties in the Kilimanjaro District..... | 226 |
| A Monkey Bridge. Monkeys Crossing a River | 227 |
| Monkeys Stoning Mr. Seymour | 230 |
| Langur Monkeys of the Himalaya Mountains | 231 |
| Macaque or Brown Monkey..... | 233 |
| A Rough Rider in Africa | 234 |
| A White-Nosed Monkey of Liberia | 235 |
| Having Fun with a Crocodile | 236 |
| An Old Hanuman Ape | 237 |
| A Good Temperance Lesson | 238 |
| A Dog-Faced Baboon | 239 |
| A White-Handed Gibbon | 241 |
| The Malbrook, or Organ Grinder's Monkey | 243 |
| The Chimpanzee and Its Habits | 245 |
| Young Ourang-Outangs at Play..... | 247 |
| Sacred Apes of India | 249 |
| Marmoset Tearing Pictures of Bugs Out of a Book and Eating Them..... | 250 |
| Head-Piece—Story of the Gorilla..... | 251 |
| Gorilla and Young | 253 |
| Head-Piece—Story of the Lemur..... | 255 |
| The Ruffed Lemur | 257 |
| The Mole and Its Burrow | 261 |
| African Two-Horned Rhinoceros Heads..... | 266 |
| East African Bull Rhinoceros | 269 |
| East African Rubber Farm | 270 |
| Great Indian Rhinoceros | 273 |
| Indian Rhinoceros Fighting an Elephant | 274 |
| Indian Rhinoceros After Shedding Its Horn..... | 275 |
| Two-Horned African Rhinoceros | 277 |
| Young East African Wart-Hog | 279 |
| Head of Wart-Hog | 280 |
| Leopard Ready to Leap on a Wart-Hog | 281 |
| Wart-Hog of South Eastern Africa | 283 |
| Head-Piece—Story of the Linsang..... | 284 |
| Linsangs | 285 |
| Family of Foxes | 287 |
| Red Foxes in Winter | 288 |
| Arctic Fox with Murre's Egg..... | 289 |
| African Asse Fox | 291 |
| Fennecs, or African Foxes | 292 |
| Head-Piece—Story of the Weasel..... | 293 |
| The Weasel and Its Prey | 295 |
| Giraffes Browsing Among the Trees | 296 |
| Habits of the Giraffe | 300 |
| Giraffes of the Kalahari Desert..... | 301 |
| Leopards in the Jungle | 306 |
| A Persian Leopard and Its Habits | 307 |
| A Pair of Chitas or Hunting Leopards | 309 |
| A Young Hunting Leopard | 310 |
| The Headwaters of the Nile | 313 |
| Three Crocodiles Captured in the Athi River..... | 315 |
| Ganges Crocodile Devouring a Child | 317 |
| Alligator Waiting for Something to Turn Up | 319 |
| Head-Piece—Story of the Civet..... | 322 |

LIST OF ILLUSTRATIONS.

xv

| | |
|---|-----|
| An African and an Indian Civet | 323 |
| An African Civet | 324 |
| Photographs of Antelopes Secured for Museum | 326 |
| Native Bearers Carrying Waterbuck to Camp, Where They Will Have a Good Feast..... | 327 |
| Photograph of an Eland Bull Whose Skin Was Prepared for the Museum..... | 328 |
| An Eland Photographed Just Before the Finishing Shot | 329 |
| Waterbuck Shot Near Mochakos..... | 330 |
| The Gemsbok Slaying the Lion | 332 |
| A South African Gemsbok | 333 |
| Female Sabre-Horned Antelope and Fawn | 335 |
| A Buck Eland | 336 |
| A Nigai Antelope | 337 |
| South African Native Hunting Gnu | 338 |
| The Blue or Brindled Gnu | 339 |
| South African Bosch Bock | 341 |
| Prong-Buck or American Antelope | 343 |
| Indian Black Buck | 344 |
| The Addax, Egyptian Antelope | 345 |
| Female Swamp Antelope | 346 |
| A Young Blessbok | 347 |
| A Waterbuck | 348 |
| Female Nilgai | 349 |
| The Hartebeest | 350 |
| Zebra and Horses | 351 |
| Herd of Zebra Chased by a Lion | 353 |
| A Family of Zebras | 354 |
| East African Zebra | 355 |
| Photograph of an Ostrich's Nest | 358 |
| A Missionary Sewing School | 359 |
| A Male Ostrich | 361 |
| How South American Ostriches Are Hunted..... | 362 |
| African Ostriches | 363 |
| A Group of Lizards | 365 |
| The Black Iguana in a Banana Tree | 367 |
| Water Monitors Robbing a Nest | 368 |
| Green Wall Lizards | 369 |
| Fish and Fishermen | 371 |
| Water Shrews | 373 |
| Head-Piece—Story of the Hedge-Hog..... | 375 |
| European Hedge-Hogs | 377 |
| Head-Piece. Story of the Wild Goat | 379 |
| Spiral-Horned Goat of Afghanistan | 380 |
| Alpine Wild Goats | 381 |
| The Aard-Vark and Its Habits | 384 |
| Head-Piece—Story of the Pangolin..... | 385 |
| The Pangolin | 386 |
| White Ibis. Great and Smaller Bustard | 387 |
| The Tenric and Its Habits | 388 |
| A Herd of Gazelles | 393 |
| Giraffe Gazelle and Dwarf Antelope..... | 391 |
| The Goitred Gazelle | 394 |
| Photograph of Male Giraffe Gazelle | 395 |
| Red-Fronted Gazelle | 397 |
| The Caffre Cat, Worshipped by Egyptians | 400 |



A WOUNDED STAG TURNING ON THE HUNTER.

At times when shot and lying as though dead, the animal suddenly starts to his feet and attacks with great ferocity.



THE ROOSEVELT HUNT.

WHY HE WENT TO EAST AFRICA.

Outdoor life and physical adventure have always seemed as natural and necessary to Theodore Roosevelt as political enterprise and manly public service. It is not on record that he has ever been fond of hunting small game, either in the Rocky Mountains or more settled sections of the United States. The bracing air of the American wilds, the free sweep of the western mountains and plains, and the excitements of running down the grizzly, have been the means of collecting and maintaining that wonderful vitality which has so completely sustained him amid the burdens and perplexities of his public career. It has made him brave in war and fearless in attacking those whom he considered foes to the nation and society.

But why did he go to Africa? Could he not have continued to hunt big game at home? It was impossible for a man of his temperament to do otherwise than start for Africa. He knew all about the big game of the United States. He commenced to hunt it, as a young man on a North Dakota ranch, continuing that phase of his career over the western plains and mountains after he was President of the United States. As a young man, he wrote his first book, "Hunting Trips of a Ranchman," and has published four or five others, covering broader ground with the extension of his experience. What more natural than that, having exhausted the American subject, he should turn to the most famous hunting grounds for big game in the world? It is also quite conceivable that he wished to cut loose from the strenuous public life he had been experiencing for several years. There is, further, a special

reason for his determination to experience the most electric thrills known to hunters; by pitting his keenness, ingenuity and stamina against the same traits characteristic of the lords of the brute creation. Roosevelt as a huntsman was universally known and greatly admired among the true sportsmen of the world, and whenever one of this class came to the United States he seldom failed to have an interview with the President, and whatever the pressure of the affairs of state Roosevelt snatched time to interview the hunter of big beasts. Among these was Richard Tjader, whose exciting tales of his elephant killings, lion trackings and ridings, buffalo hunts and other adventures in British East Africa, are said to have caused Roosevelt's final decision, so that his trip was practically determined about two years before the expiration of his presidential service.

HIS VOYAGE TO MOMBASA.

On March 23, 1909, two weeks after President Taft had been inaugurated as his successor, Mr. Roosevelt left New York on the steamship "Hamburg" for a fifteen months' recreation trip, including a hunt in the protectorate of British East Africa, a voyage in the waters of the great Victoria Nyanza lake and a journey down the valley of the Nile. He was to be the head of an expedition in active charge of R. J. Cunninghame, of Nairobi, the headquarters of the Uganda Railroad. Not only is Mr. Cunninghame one of the most expert of African sportsmen, but the party was also to include F. C. Selous, the famous hunter and author. Mr. Roosevelt's son, Kermit, who accompanied him from the first, was to be official photographer of the expedition. On March 30th the "Hamburg" arrived at St. Michael's, the Azores, where the Roosevelts were received by the American Consul and given God-speed toward Gibraltar. The steamship made the British stronghold April 2nd, and after Mr. Roosevelt and his son had been entertained by the commandant the voyage was continued to Naples. There the ex-President was greeted with all the honors due to his distinguished character, and in its glorious harbor he found awaiting him, gaily decked with flags and crowded with welcoming crew, passengers and visitors, the steamship "Admiral." The latter was to bear the party to Mombasa, the port of entry and capital of British East Africa, and the beginning of the great Uganda railroad, or backbone of the Big Game Hunting Grounds. It was at Naples that Mr. Selous joined the party and for nearly two weeks thereafter, or until the boat landed at Mombasa, the ex-President's appetite for action was whetted daily by the





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NATIVE TROOPS OF EAST AFRICA

narratives of his companion, covering his own huntings of big game in the country to which they were bound. The impressive incident of the voyage was the stop at Messina, April 6th, during which Mr. Roosevelt met King Victor Emmanuel, received the royal thanks for American sympathy and generosity in behalf of the earthquake victims, and then, with unconcealed

emotion, viewed the pitiful ruins of the stricken city. The "Admiral" arrived at Port Said on the evening of April 9th, and about half way between the Mediterranean and Red seas the scientific branch of the party landed to make a collection of bird specimens. The only other incident which occurred in the Suez canal, worthy of comment, was the passing of the "City of Paris," crowded with British passengers, who heartily cheered the ex-President and had the satisfaction of seeing his famous and infectious smile when he noted the large "Teddy bear" displayed on deck. The "Admiral" passed out of the canal on the evening of the following day; left Aden, Arabia, April 15th, and after running down the dreary coast of the Red Sea, with only a short stop at Somaliland, on the 21st of April landed the party at Mombasa in the midst of a pouring rain, notwithstanding which, the shore was crowded with Europeans, Indians and natives, and a military guard was drawn up in honor of the ex-President, who was welcomed by the provincial Commissioner and conducted to the government house. Mr. Roosevelt was dined and hospitably entertained, but, with the enthusiasm of the true sportsman, made his preparations for the hunt as rapidly as possible.

HUNTING PREPARATIONS AND OUTFIT.

The first thing to do is to secure a hunter's license, and it is a fair illustration of Roosevelt's democracy, as well as of his true sportsmanship, to state that he refused to accept special privileges, but insisted upon abiding by the common laws governing the killing of big game. These provide for a license ranging from \$85 for a bull elephant to \$25 for a giraffe or rhinoceros and \$15 for an antelope; limit the killing to two each of elephant, rhinoceros, hippopotamus and zebra and classify and protect as Royal Game not only these animals, but buffalo, eland, impalla and ostrich. Lions and leopards may be killed without a license, as they are classed as "vermin," pests fit to be exterminated. Further, shooting from trains is forbidden; so that the big game of British East Africa is protected against reckless and unsportsmanlike slaughter.

In employing native help, it is usually figured that thirty porters (at about \$4.50 per month) will be required for each white in the party, and the average load is sixty pounds. Gun bearers and caravan headmen are paid about three times that amount, if they be Swahili, and some \$25 per month if Somali. Allowances are also made for food, and if the hunter wishes to abide by the strict letter of the law he takes out a government caravan license. The latter

binds you to pay your men what you stipulate, provide each with not less than a quart of cereals a day, and a water bottle and blanket, and furnish each gang of eight with a tent and cooking pot. The legal allowance of food, however, would be far from satisfactory to the average native. It is generally supposed that the inhabitants of cold countries are the great meat eaters, but the stories told of the quantities of meat consumed by the porters and other natives at-



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NATIVES WAITING FOR MEAT.

Hippopotamus dragged from Victoria Nyanza, with six bullets in his head.

tached to a "safari," or African hunting party, would discount the tales illustrating the capacity of the blubber-eating Esquimaux. They grumble if they do not have fresh meat daily; and they not only pick the bones clean, but extract the marrow. A fair-sized party will consume two elands and waterbucks daily, if the hunters can furnish them with such rations.

BRAVEST NATIVE HUNTERS OF AFRICA.

From all accounts, there is a very good reason—in fact, many good reasons—why the Somali helpers, or shikaris, command the highest pay of all the native hunters of Africa. They are scrupulously clean and, like all Mohammedans, absolutely temperate. Fatalists in religion, they have no fear of death. If they are to die by the terrible jaws or paws of a lion—they die; that is all there is to it. With their light complexions, wavy hair, tall, slender and wiry bodies, they are largely Arabian, both in appearance and in fact. As proclaimed by one who has cause to stand by his words, “Nothing connected with East African lion shooting is more heroic than the conduct of the Somali shikaris. No Sahib who treats them half decently is likely to find cause to complain of their fidelity. When peril threatens, they are as ready to die for him as most others are ready to desert.” Countless stories are told illustrative of their intrepidity. For instance, the fresh tracks of a lion lead to the mouth of a dark cave, high enough only to admit the two Somalis who, without a moment’s pause, start for the opening, one armed with a rifle and the other with only his skinning knife. The white Sahib shouts a protest and a warning, at which one of them answers cheerily, without a tremor in his voice, “Inshallah [God willing] we come back.” They then enter the cave and even toss stones into its darkness, inviting in every way, a charge of the terrible king of beasts. Again, a wounded lion charges a white hunter and his Somali gun bearer. As the beast crushes the former to the ground, the rifle, which had previously been broken and imperfectly repaired, falls apart. Being unable to fire it to advantage, the Sahib rams the gun barrel down the wounded lion’s throat. As the two lay struggling on the ground—the beast commencing to maul the hunter most fearfully—the Somali circles around endeavoring to find an opening to dispatch the lion with the rifle in his possession. After several vain attempts, the native drops the gun and springs upon the back of the infuriated beast, biting its ears and pounding its eyes with such ferocity that it turns upon him and all three fall to the earth together—the Somali beneath the lion and the effective rifle under both. This diversion gives the Sahib an opportunity to arise, pull the weapon free and blow out the lion’s brains, thus saving his faithful and brave follower from the death which he invited in order to rescue his chief. The air of the hunting grounds in British East Africa is full of such stories, and it is therefore quite natural that the true white sportsman is perfectly willing to pay the high wages so

fully earned by the Somalis. Besides such invaluable native hunters, a *safari* must have a number of Somali ponies and Abyssinian mules.

An outfit for one man will usually consist of a white *safari* (or party) leader, a headman, gun-bearer, cook, mess-boy and tent-boy (all Somalis); from twenty to twenty-five native porters; tents, beds and provisions—all furnished at from \$3.50 to \$5.00 per month.

As on all subjects under the sun, experts disagree as to the most effective weapons and balls to be used on big game. Heavy-bore rifles have, as a rule, been discarded, and perhaps the favorites of the present day are English double-barreled .450 cordite for big game, and a magazine rifle of .256 to .350 for deer and smaller quadrupeds. Upon one point the hunters of big African game now generally agree, that is, "Avoid throwing your lead into the animals, unless you have a fair chance of reaching brain, heart or spine"; for such is their extraordinary vitality that, irrespective of hits, they run the faster if the bullet does not strike a vital organ. When a hartbeest bull will carry nine big Mauser bullets in his carcass for two miles before slowing up, and a "hippo" twenty-two 303's before admitting himself beaten, it is the wise part of the hunter to wait for his opportunity to get a fairly fatal shot.

THE TRUE AFRICAN SPORTSMAN.

Theodore Roosevelt is built on the lines of the true African sportsman, who glories in the fact that there is no land in the world which offers such hazard of limb and life, in the pursuit of game, as his own. Not one of his big game but will easily carry as much imbedded lead as the grizzly bear; and bruin cannot compare with the lion, buffalo, elephant or rhinoceros in the impetuosity of his charge. The old and true African hunter has nothing but the most intense scorn for the white who would poison a lion or a leopard, and has even little patience with him who lays set guns or traps. In the interests of science, the capture of smaller animals may be thus made, but it is to the typical African hunter an exhibition of inexcusable cowardice for a man to thus destroy big game. When there is more than one white hunter in the party, it is customary for true sportsmen to agree before setting out upon the division of the killings and the order of first shots, some even preferring to pitch their camps at least twenty miles apart in order to avoid any crossing of lines or conflicting claims.

The idea is rather exploded that, in order to get the most out of a big-game hunt, one must go into it without taking comfortable tents, an abun-

dance of provisions and a big medicine chest. "Roughing it" is all right; but the hunter will get enough of that, with probable attacks on life and limb, in the natural order of his trip, without endangering his health and sapping his strength by exposure to tropical dew, rain and insects and the eating of unhealthful foods. Native villages or railway points are usually relied upon for eggs, flour and vegetables, but all modern parties, like the Roosevelt expedition, now lay in a good supply of sugar and canned meats and tomatoes. The medicine chest must contain, above all, an abundant supply of lint bandages, besides the usual antidotes for poisons and powerful cauterizers to prevent fatal results from possible wounds inflicted by the terrific carrion claws of His Royal Highness, the King of Beasts. Brandy and champagne are also considered desirable as medical supplies, but the true sportsman knows how necessary it is to confine all liquors to their legitimate province, for the moment they are taken as indulgences the capacity of the drinkers for endurance and keen work is materially lessened.

SCOPE OF THE ROOSEVELT HUNTING GROUNDS.

All such preparations having been made by the great expedition, of which Mr. Roosevelt was the most distinguished member, the party boarded a modern railway train drawn by an American Baldwin engine and pulled out from Mombasa for the Kapiti plains, the districts adjoining the headwaters of the Athi and Tana rivers and the Mount Kenia region—which were to be the main hunting grounds thrown open to the ex-President. This great district embracing every variety of African country—plain, jungle, swamp, forest and hill—not only swarms with game, both big and small, but contains fifty varieties of the larger species, and is therefore probably unexcelled anywhere in the world. It lies northeast of the railroad, with Nairobi as its central station, and is almost midway along the line, which extends 584 miles from Mombasa to Port Florence, the terminus, on Lake Victoria Nyanza. To be quite accurate Nairobi is 327 miles from the Indian Ocean, but this central section of the Roosevelt hunting grounds extends considerably north and far east of that city, the headquarters of the Uganda railway. This is the paradise of the modern African hunter, not only because of the abundance and variety of great game, but from the fact that several of the famous sportsmen of the world have established there magnificent ranches, or private hunting grounds, on which they entertain with the lavishness befitting their rank. Among them are the splendid Heatley, Pease and McMillan estates, the mas-

ters of which threw open their homes and grounds to Mr. Roosevelt. There are great government reserves, both north and south of the railroad, extending from Tsavo to Kijabe, some two hundred and thirty miles, and the railroad



ROOSEVELT HUNTING GROUNDS.

traveler soon notes that these sections of the protectorate are literally crowded with game of every description. But the animals themselves seem to know the limits of their safety and also the game law forbidding shooting from trains, and seldom leave the reserves except in periods of extended drought;

while not only such "vermin" as lions and leopards boldly stand near the track and gaze at the tantalized passengers, but the timid gazelle and the wary giraffe appear to discard their very natures.

AWFUL COST OF THE UGANDA RAILROAD.

When the statistician finds that about \$35,000,000 was spent in the building of the Uganda railway from its commencement, in January, 1896, to its completion, in 1902, he pronounces the cost great. The philanthropist and the enterprising citizen of the world asserts that the cost was small, considering that it has changed the face of a large portion of Equatorial Africa; opened up a wonderful country for the scientist and cartographer and a land full of charms and surprises for the artist; thrown safeguards around the lives of the Christian missionaries; introduced the world to one of the most advanced and promising native states of Africa; created a real scenic railway for the pleasure and instruction of thousands of travelers—in fact, driven a great wedge into interior Africa for the entrance of civilization, and last (but greatest in the estimation of the hunter of big game), made it possible for the true African sportsman to be placed, comfortable and fresh, in his hunting grounds, prepared to give the full strength of his body and the keenness of his mind to the strenuous work before him. The journey of nearly six hundred miles from the coast to Lake Victoria Nyanza, taken by the cumbersome caravan at an expenditure of three months' time and a small fortune in money, is now accomplished in less than forty-eight hours at a cost of from \$5.84 to \$40.4. The railroad rates are six cents, three cents and one cent per mile, according to the class of accommodations. It is not on record that any white man has ridden the 584 miles on a third-class ticket in the "Jim Crow" cars; the latter are monopolized by the natives. Jim Crows, in turn, are barred from the first and second-class cars, which are comfortable and cool.

If only seven million British pounds had been expended on this great creation of New Africa, the cost would indeed be small in view of what has already been accomplished and the far greater benefits of the future. But disease, poisonous insects and reptiles, and, more terrible still, the carnivorous beasts of East Africa, collected an awful toll of human life before the Uganda railway was completed. Although some of the warlike native tribes, such as the Masai, gave the early surveyors and builders some trouble by cutting off scattered parties, the agents before mentioned were chiefly responsible for the great sacrifice of life. What has been said of this country is true of any

tropical land—"if a man has any physical weakness, Africa is certain to find it out"; and it is generally accepted as the final word that no white man can maintain the strenuous life in Africa for more than five years. In spite of the liberal use of quinine, fevers and malaria laid low hundreds of railroad builders, while toward the lake terminus the silent, insidious tsetse flies inoculated many native workmen with the fatal Sleeping Sickness.



A FINE LIONESS.

But the man-eating lions were the supreme terror and scourge of the builders of the road, and they alone added to its cost more than a human life per mile. The greatest campaign conducted by the builders against the man-eaters was in the vicinity of Tsavo station, about 130 miles from Mombasa. After twenty-nine native workmen had been killed and eaten, and others attacked and badly mauled, three young railroad engineers side-tracked a car at a place near the station where a few days before a lion had sprung upon a slowly-moving train, like a flash seized a man in one of the open cars and

leaped with him (as a cat would carry a helpless mouse) into the jungle. The would-be avengers of this horror, and many like it, arranged to have one of their number on constant guard, with rifle in hand, ready to shoot the blood-thirsty prowlers at a moment's notice. The closed car was strongly built and, as the sentry on duty placed himself so as to always command the doors and windows, the risk was not considered great. But at the midnight watch young Ryal, overcome by the tropical heat, fell asleep, and the huge man-eater, who had kept even closer vigil than his human victim, crept through the half-open door, seized the sleeper in his great jaws and sprung through the glass of one of the windows into the jungle. Not long after, the picked and whitened bones of Ryal were found in the vicinity. This death of a white engineer, under such circumstances, resulted in the organization of a great hunting party under J. H. Patterson, of the engineering corps, and among the lions killed was one identified as the slayer of Ryal; for in his hide, only recently healed, were found several pieces of window glass.

SPECIAL OBJECTS OF THE EXPEDITION.

The main preliminaries of the great Roosevelt expedition have been described; in other words, the background and setting of the hunt have been placed in the picture. Special inquiries will then arise, naturally and legitimately. The first may be, what are the special objects of this expedition? The uninformed may imagine that it is only a junketing trip for the special recreation and amusement of the hearty ex-president. Roosevelt obtained a necessary outing and had his inning with the big African game, but the serious and special object of the expedition, as announced by Secretary Charles Walcott, of the Smithsonian Institution, in December, 1908, is to gather specimens of natural history—beasts, birds, and plants—for the government museum embraced by the institution named. The regular representatives of the Smithsonian Institution were Major Edgar A. Mearns, a retired officer of the medical corps of the United States Army, and Messrs. Edmund Heller and Alden Loring. Mr. Roosevelt was the general head of the expedition and R. J. Cunninghame was in active charge, being upon the grounds before the arrival of the main party, selecting porters, hunting animals and a complete outfit. Mr. Cunninghame was both an expert African hunter and had previously made collections in natural history for the British Museum. Mr. Heller, a graduate of Stanford University, was an expert taxidermist, and had traveled over both the

Americas in his expeditions for the Smithsonian Institution. Mr. Loring was also a thorough student of natural history. So that the personnel of the party representing its scientific spirit, was everything which could be desired in the matters of earnestness and efficiency. When F. C. Selous joined the expedition at Naples, Mr. Roosevelt and his



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AN EXTRA FINE FEAST FOR THE BOYS.

son Kermit had the privilege of meeting one of the most famous hunters of African game in the world. Both he and Mr. Cunninghame, with the hosts who entertained the visiting Americans, saw to it that neither father nor son were placed in unnecessary danger. Notwithstanding which the Roosevelts repeatedly demonstrated their wonderful marksmanship and coolness.

ROOSEVELT'S GUNS AND AMMUNITION.

As was characteristic, Mr. Roosevelt proclaimed his positive nationality even in the matter of selecting the weapons and ammunition for his "safari," discarding even the standard British arms and entering the hunting grounds for big game with an American repeating rifle of far lighter bore than that in common use. It is known as the "forty caliber" and although thirty years ago it would have been considered suicidal for a sportsman to contend with lions, rhinoceri and buffaloes with such a "toy," improvements in high pressure, smokeless powder and bullets have rendered the rifle a most effective weapon for the strong-lived game of Africa. With the soft-pointed bullet to tear through the comparatively tender hide of the lion and buffalo, opening out like an umbrella in its passage and making terrible gaps in its progress, and the keen pointed steel bullet for the tough rhinoceros or hippopotamus, the American rifle of .405 caliber and terrific smashing power proved its superiority on many a hotly contested hunting field. For lighter game, such as deer and gazelle, Colonel Roosevelt carried .303 caliber repeating shot guns, popularly known as "thirties," and for feathered game he had two twelve-gauge repeating shot guns. His shot gun ammunition was specially loaded for him in brass shells, and the wads were carefully covered with wax to be waterproof and prevent their swelling in the moist climate of the country.

OFF ON THE ROOSEVELT SAFARI.

Less than two days were spent by Mr. Roosevelt and his party at Mombasa, but they were sufficiently full of action even for the ex-president. Upon his arrival at the railroad station he found a guard of honor, composed of marines and blue jackets from the British cruiser "Pandora," drawn up to receive him, as well as various officials and civilians. The station was decorated with intertwined American and British flags. The ex-president was the special guest of F. J. Jackson, acting governor of the protectorate, and in the evening the Mombasa Club entertained him, with his son Kermit, Edmund Heller, F. C. Selous and R. F. Cunninghame. Major Mearns and J. Alden Loring, the other members of the party, had not disembarked from the "Admiral" on account of the heavy rains. Mr. Jackson, in proposing Mr.

Roosevelt's health, first read a cabled message of welcome from King Edward, and then smilingly remarked that their honored visitor had left the "big stick" at home and had come out to Africa to make use of the rifle, concluding by promising him an immense variety of game and good sport. Mr. Roosevelt replied by praising the British people for letting light into the dark places of the earth, and for their wonderful work in East Africa. He expressed pleasure over every feature of his reception and briefly referred to his future plans. On the following morning the ex-president sent a telegram to the Emperor of Germany thanking him for the courtesies received aboard the "Hamburg," having previously thanked King Edward for his message of greeting. He then spent the remainder of the forenoon at the government house, while Mr. Cunninghame was flying around among the porters and other "articles" of the safari making final preparations, and the other members of the party were occupying their time, previous to the departure of the train for Kapiti Plains, in driving around the city.



MOMBASA TO NAIROBI.

OLD MOMBASA, OR THE BATTLE CITY.

What did Roosevelt and his party see on the first limb of their trip over the Uganda railroad from Mombasa to Nairobi, which was for months the headquarters of the great hunt, as it is of the great East Africa railroad line? During their short rest at Mombasa they saw a picturesque jumble of Old and New Africa in a town of 30,000 people—lithe, dignified Arabs, stout Soudanese, calm and swarthy Indians, alert and often uniformed Somalis, stolid British officials and polite army and navy attaches—the native populace numbering some 29,500. From the shores of a low-lying and small island, at some distance from the Indian Ocean, rises the white Moorish walls of Old Mombasá, Portuguese Mombasa, or “The Battle City.” And well has it earned its native name; but the sieges and counter-sieges which it suffered at the hands of the Portuguese, who craved it as the great depot of the trade in ivory, skins, rubber and slaves, and of the Arabs, who naturally wished to hold it, came to an end when the Imperial British East African Company opened up the country, in 1887. It was surely time that the wars over its possession should cease, for they had been in evidence since the Portuguese first bombarded and looted the city in 1500. Portugal again destroyed it in 1505, fortified and rebuilt it a few years later, and was expelled by the Arabs

in 1586. Not many years after a Portuguese admiral battered the city to the ground; next it was ravaged by an "irregular" savage tribe; and Portugal returned in 1630 to construct the massive fortress whose ruins still overlook the sea. Next it was the turn of the Arabs, whose archers shot the garrison to death after its surrender. Another Portuguese fleet avenged the outrage, and in 1665 the fortress fell before the five months' siege of the Arabs. The Arabs held complete possession of the island from 1698 to 1826, when the Sultan of Zanzibar, after four years of terrific warfare, conquered the Battle City and adjoining territory. Then followed over fifty years of wars and feuds in which Mombasa was dragged back and forth, wrenched and tortured in every joint, until the coming of peace and order under the protection of Great Britain; and now what is left of the old Portuguese fort overlooks the mansions and bungalows of European officials and merchants, surrounded by large and elegant gardens.

NEW MOMBASA, THE BRITISH CAPITAL.

New, or British, Mombasa, which lies nearer the ocean than the old, contains also the government buildings and the cathedral. A noticeable feature of the modern town is the intricate network of tramways, which not only cover the chief thoroughfares, but branch off to every house; and coolies are seen everywhere, pushing along the private cars which transport the aristocratic Europeans to and from their offices. Although the two or three hotels in Mombasa are but indifferent, there is an excellent club, which is patronized by Englishmen, Americans and travelers in general. The East India Bank is also an important feature of the modern city. New Mombasa has a hearty welcome for white visitors, but, unfortunately, possesses no harbor worthy of the name. Some two miles to the southeast, however, is a sister port of Kilindini, whose harbor affords anchorage for ships of the largest tonnage and which even rivals the far-famed Delagoa Bay in Southeast or Portuguese Africa. Kilindini harbor, therefore, first receives the important passengers and cargoes destined for British East Africa and Mombasa. The trade in ivory and hides has also gone to the more convenient port, and it is not beyond the possible to foresee a shifting of the government headquarters and the railroad terminus to this admirable commercial center.



MOMBASA AND THE OLD PORTUGUESE FORT.

CLIMBING THE DESERT OF TARU TO VOI.

From the Indian Ocean the Uganda railroad climbs steadily to the high northwestern plateaus at Nairobi; and more than one hundred and fifty miles beyond, where it reaches its extreme elevation of more than 8,300 feet above sea level. The train pulls out of Mombasa, glides past the large freight depots and docks at Kilindini, and in a few minutes is thundering over the seventeen hundred feet of iron bridge which spans the strait between the city and the mainland.

The nine miles of road intervening from this point to Mazaras station takes the traveler through a country of cocoanut palms and mangoes and along the route are well-kept Indian plantations, neat Wayganika and Swahili cottages and villages, and other evidences of New Africa and the civilizing effects of the modern railroad. The entire narrow belt of country between the coast and Mazaras station, which marks the commencement of a desert country, is seen to be lined in every direction with little brown paths leading from the open places into the copse or jungle, or toward the palisades enclosing native huts, the larger collections of which are called, by courtesy, villages.

TARU DESERT AND OLD CARAVAN ROUTE.

From Mazaras to Voi, the distance is ninety-four miles, and as the native farms and villages of this pretty belt of country, interspersed with remnants of forest growth, are left behind the road enters the dreary waste known as the desert of Taru. It is true that patches of dry grass, or thorny growths, are scattered over its surface; but as Roosevelt and his fellow travelers viewed from the comfortable seats in the speeding train the old caravan road stretching ahead for mile after mile over this juiceless and sandy plain, they were doubtless thankful that they were living in the new days. The desert is by no means destitute of animal life, herds of gazelles, packs of jackals, a prowling hyena, and an occasional leopard or lion, moving unconcernedly over its surface. But it by no means compares with the natural zoo which is offered further to the North.

GLORIOUS MOUNT KILIMANJARO.

At Voi, one hundred and three miles from Mombasa—about a third of the distance to Nairobi—the government has provided a comfortable bungalow for the accommodation of tourists who may wish to stop off and trek it, one

hundred miles to the Northwest, to that splendid glittering and burnished cone, seen from Voi, like a shimmering blaze in the clouds and known to lovers of nature as one of her most glorious exhibitions. Geographers call it Mt. Kilimanjaro and describe it as the highest peak in Africa, 19,200 feet above Mombasa at the sea. "The Mountain of the Spirit Njaro" appeals to all the unbounded superstitions of the native African; and well it may. A good government road leads from the railroad to the very base of the mountain, if the tourist decides to make the trip. If taken afoot, especially in the hot season, it is a most trying walk; but it is nothing compared to the ascent of the mountain itself—the climbing from a heat of some 110° Fahrenheit, through forests of bamboo and cacti, into the region of gradually thinning vegetation, to the rocks and eternal snows and glaciers, whose radiant reflections are seen from Mombasa, Voi and Nairobi. The scaling of the very summit has been accomplished only two or three times in the world's history.

HOW THE GAME IS KILLED IN THE RESERVES.

Near Tsavo, the first station beyond Voi, on both sides of the line commences the great game reserves of the British government, extending on the north for some 230 miles to the vicinity of the dizzy escarpment, or cliff, over which the line almost pitches into the grand Rift Valley. But this is taking time by the forelock indeed, since the Roosevelt train has but just pulled out of Voi and is speeding through the grounds in which the big game of the land find refuge and safety from human hunters. From human hunters, yes; but the reserves are the slaughter pens of the small or peaceable game by the big and ferocious animals. Thousands of tiny soft-eyed antelope, mottled sleek-coated zebras and long-legged, long-necked ostriches feed over the plains of jungle grass, broken by hills and mounds and wander fearlessly close to the tracks. The stately giraffe is also seen abroad, with his sinuous neck moving around in the tree tops, like the animated trunk of a slender date palm. While they thus swarm in seemingly conscious security in these reserves, the lions, leopards, hyenas and jackals gather in the same district and there satisfy their blood-thirsty appetites. Seeming to fully realize its exemption from attack at the hands of human kind, game of every description is continually crossing the tracks. It may be a stately lion, or lion, lioness and cubs; a creeping, snaky-looking leopard; or even a large herd of elephants traveling from the bamboo forests of Mount Kilimanjaro to more northern feeding grounds. In the last case the train slackens its speed and may even be brought to a full

stop. If smaller game is in the way—well, accidents will happen, and the average engineer on the Uganda railroad is like others of his brotherhood, anxious to be on time. Game is therefore frequently killed by locomotives, and it is said that its engineers, switchmen, station masters and even section



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ZEBRA ATTACKED BY A LION.

hands are prone to take greater chances for accidents, by running over animals which interfere with them, than most railroad men in civilized countries. They claim that otherwise the Uganda railroad would always be a slow, unreliable, unprogressive concern, and of no great use to either travelers or commerce.

FROM VOI TO KAPITI PLAINS.

The country north of the Uganda Railroad from Voi to Makindu, two hundred and fifty miles from Mombasa, is a jungle of plains broken by grassy hills, and is but preparatory to the fresher stretches of the Kapiti plains and the Athi district. From Tsavo to the Kapiti plains, a distance of one hundred and fifty miles, there is no white settlement. North of the track and beyond Kapiti the settlers are widely scattered through a belt of forty miles.

Occasionally, on the trail, a safari will pass a native village, the chief of which usually attempts to hold up the head man for "hongu," which may be interpreted as either blackmail or presents—according to the manner of the chief or the temper of the head man. The Roosevelt party, and all other expeditions which expect to do much traveling afoot, laid in a good stock of trinkets in order to save vexatious contentions with these persistent chiefs, and also to be prepared to barter them for the agreeable articles of food as may often be obtained of the native villagers—articles both of native raising and compounding. Aromatic honey, sweet potatoes, sugar cane, pumpkins, Indian corn and the ever present banana are not to be despised on a long "safari," when the party is a little short of provisions of its own. Better still, the white cook may pound the corn into a meal, fry it in butter and make a really appetizing cake. The natives themselves often mash and boil the green banana, which, although uninvitingly black and mushy to look at, is wholesome and pleasant to the taste. Mr. Roosevelt and his expedition did not reject this sticky looking mess entirely—but, as a rule, they preferred food whose appearance was a better recommendation for its flavor.

THE GREAT HUNT STARTED.

Mr. Roosevelt and his party left Mombasa for Kapiti Plains at 2:30 P. M., April 22nd, accompanied by Acting Governor Jackson, their immediate destination, after they left the railroad, being the splendid ranch of Sir Alfred Pease on the Athi River, in the midst of the beautiful Kapiti Plains. It was in the prime of the season for lion hunting. The big rains were well over; the plains were waving with short crisp grass, and such cool breezes were playing through it that the lions roved freely abroad, instead of seeking cover to escape the tropical sun. Although Sir Alfred's place is called the Theki ostrich farm, from the very

fact that it comprises one of the biggest and most scientific breeding grounds for these birds in East Africa, both it and the surrounding country have the reputation of being unexcelled as a resort for the tawny-maned cat. Covered with short grass and devoid even of bushes, Kapiti plains are seamed with ravines, filled with weeds, reeds and thorns—with here and there pools of sweet water, which are very magnets to the Kings either in the cool or hot seasons. Nature specially designated the “Theki ostrich farm” as the ideal launching grounds for the big hunt.

But its generous proprietor and royal host had by no means left the success of this step of the expedition to nature. For weeks he had been arranging for the coming of Roosevelt, and had even built a beautiful substantial bungalow for the reception of the chief and his associates. It is needless to add that they gratefully occupied it for a short time before setting out on their exciting and successful hunt. The bungalow had been christened “Kitanga”; it has a tin roof, with outer walls of gray granite blocks; and its central living and dining room and four bedrooms are divided by walls of sun-dried brick.

The first night of the Roosevelt expeditions in Africa was passed in tents near the railway station at Kapiti plains, and was April 22nd. The next morning the “Mombasa Standard” published a violent attack on Acting Governor Jackson and Mr. Roosevelt for alleged partiality for American journalists, who were said to be favored with passage on the special train to Kapiti Plains and English newspaper men excluded. The charges were found to be groundless, but created a little feeling of uneasiness for the time being. It was the intention to leave at once for the Pease ranch, but it was discovered that some of the baggage sent by the Smithsonian Institution had been left at Mombasa, and the expedition therefore pitched camp near the railroad station. Mr. Cunningham sent back for the missing goods and Messrs. Roosevelt, Jackson, Selous, et. al., proceeded to prepare for a preliminary small-game hunt. Colonel Roosevelt arose early the morning of the 23rd, and his high spirits continued even after he learned of the grilling he had received by the Mombasa newspaper. He proceeded at once to look over his outfit and consult Mr. Selous about hunting plans. Before he had started Kermit came in with a dead buck which he had shot, thus forestalling his strenuous father. With the assistance of Mr. Selous and a red handkerchief, Colonel Roosevelt then succeeded in bringing



ROOSEVELT'S ARRIVAL, AT KAPITI PLAINS, A STATION NEAR THE ESTATE OF
SIR ALFRED PEASE.

down two wildbeests and a Thompson's gazelle. But the thoughts and eyes of the ex-president and present hunter of big game were turned toward Sir Alfred Pease's ostrich farm and its roaming lions. The next day the Roosevelt expedition broke camp and arrived at "Kitanga" in the midst of a tropical rain; but aside from their comfortable housing, the most complete arrangements had been made for their comfort, so that the next day found all in prime condition for the formal opening of the hunt. Another day passed, and the ex-president had only a Grant's gazelle and a couple of bucks to his credit, although there were the unmistakable roarings and other evidences that lions were abroad in the country around. The next morning the caravan proceeded toward the Mau hills where its camp was pitched. Another day, with only small game bagged; but great work accomplished by Kermit's camera and by Messrs. Loring and Heller in the cause of science. Mr. Selous accompanied the ex-president on his first lion hunt and killing. The native beaters first discovered three lions, and while two bounded off into the high grass the third charged, and was shot in the air by Colonel Roosevelt. The next hunt called for more patience in tracking his lordship, the lion evidently taking to the river bed. But the beast was finally located and driven out into the open by the beaters, and was shot through the heart by the American as the animal was making one of those famous whirlwind charges described as "the swiftest thing on earth." Following the advice of Cunninghame, Selous, Pease and other experienced lion hunters, Mr. Roosevelt had been careful to have his pony led some distance behind, as the latter is apt to make some noise, such as snorting or stamping, to alarm the lion. Another reason for this rule: The lion is very fond of horse meat of every description, the sight of a sleek zebra or a fat Somali pony often inviting him to a furious attack when otherwise he would give his followers a wide berth. Before the sun had set on this 30th day of April, 1909, Mr. Roosevelt's good American rifle had brought three lions to earth, and each on the first shot, while Kermit had proved his relationship by killing one of the big beasts. Both father and son were jubilant as their first lion hunt had exceeded all expectations. All the lions were of normal size and after the natives had dragged them together in the grass they executed the usual picturesque and weird dances around the trophies. It is said that Sir Alfred Pease made an effective sketch of Mr. Roosevelt as he was shooting his first lion over the shoulder of a native gunbearer, at

a distance of sixty yards. Two days after the red letter 30th of April he bagged another lion at Wami, near Kapiti Plains, and upon this occasion his quick work at close range perhaps saved the lives of some of his mounted escort who were being charged by the infuriated beast. It is certain, with all the safeguards thrown around him, that he gave repeated instances, during the first week of the real hunt, of wonderful nerve, and that he aroused general admiration at his accurate marksmanship.

The Roosevelt party remained on the great Pease ranch for about three weeks, during which period the Colonel killed four lions, two rhinos, two giraffes, two wildbeests and one Thompson's gazelle, while Kermit bagged two lions, one cheetah, one giraffe and one wildbeest. While all the members of the expedition were bitten by ticks, none developed the dreaded fever. But several cases of smallpox were discovered among the porters. Otherwise, all was serene until the expedition commenced temporarily to scatter. Mr. Roosevelt and his son prepared to hunt another kind of game on the famous Juja ranch of W. N. McMillan, east of Nairobi. There were especially sought the impalla, buffalo, wart hog and waterbuck, and the Roosevelts were accompanied to the McMillan grounds by P. H. Percival, brother of Major Percival, one of the assistant game wardens, and Clifford Hill, who was once associated with the Pease ostrich farm and now, with his cousin, conducts one of his own. They are both great lion hunters as well as ostrich breeders; are English colonists who have never seen England; bred in South Africa; ex-soldiers of the Boer war and emigrants to East Africa.

FROM KAPITI PLAINS TO NAIROBI.

The country from Kapiti plains to Nairobi is a gradual melting into the more rolling and less seamed surface of the Athi river district. It is the approach to the region of fine plantations and the threshold of those wonderful grounds so interesting and thrilling both to the scientists and sportsmen of the Roosevelt party. Toward the east and the north, the land is simply a vast spill-over for the teeming game reserves to the south.

At this stage of the Roosevelt expedition many rare birds as well as fine zoological specimens had been obtained for the Smithsonian Institution, and while they are being prepared for shipment to the

United States, it is a good opportunity to briefly note the special and less known victims of the Roosevelt rifles and shotguns; also to describe one of the most enterprising and modern cities of Africa, which for several months, was to be the nucleus of the expedition. The big game country in all its glory was yet to be entered beyond Nairobi, and the Kings of beasts which make it their home will be treated in their logical order. The most interesting smaller game bagged by the party up to this point, were the wildbeest, impalla, water buck, Thompson's and Grant's gazelles and the wart hog.

The species of wildbeest bagged by the Roosevelt expedition is the white-bearded gnu, the only kind now common to East Africa. Its general appearance is familiar. If the genus is ever exterminated, the final undoing of the beast can be traced to its inordinate curiosity, which it shares in common with the antelope and gazelle; but the trait is most abnormally developed in the wildbeest. The animals go in herds of from twenty to fifty, and as they prefer such open, sunny ground as the Kapiti and Athi plains, they stand out more ponderous than they really are, hunters not infrequently mistaking them for rhinos at a distance. The bulls exhibit the same fury toward red as the domesticated article and although they are stupid looking beasts, as they stand motionless in the open plain with the hot sun shining down on them, they are really so alert that other species of game will often impress an old bull who has no herd of his own kind to do sentry duty. When a herd of wildbeests is disturbed, the animals usually go off at a lumbering gallop which takes them over the ground at a pace which usually puts the best horse to shame. When in motion their tails rapidly vibrate, which is also a peculiarity of the galloping giraffe.

The impalla and water buck, of which both Mr. Roosevelt and Kermit obtained some fine specimens, are among the most graceful of African antelopes. They are generally found together—the impalla with slim bodies of bright red with beautiful spreading horns, and the water buck with long shaggy hair of a less pronounced red, with a bolder sweep of the horns. The old African hunters who were with Mr. Roosevelt were well aware that the impalla and water buck have been classed as the most regular in their habits of all known animals. In this particular they give an exhibition of instinct which is among the most remarkable in the animal world. "For instance," says one of the hunters, "on the Tana River after an early but short morning shoot,

having had breakfast we used to go to a high bank opposite a favorite drinking place for all sorts of game, to where a screen of thin grass had been erected to take photographs from behind. After we had found out their habits, we timed ourselves to be there roughly at 10:15 A. M. The impalla always arrived first, at from 10:30 to 10:40, and immediately after they had cleared out the water buck turned up at from 10:50 to 11:30, when they were all done. Both were punctual to ten minutes or so, if the wind was right and they had not been disturbed.

One of the first trophies of the chase at Kapiti Plains was a pretty little Thompson's gazelle, with its ringed, almost straight horns smoothly tipped, sandy-colored fur and black nose. A distinct black band also divides the white of the belly from the sandy red of the back. It is popularly known as "Tommy" and roams widely over East Africa. A peculiarity of this species is that there seems to be no rule about the carrying of horns. Sometimes the females carry them; sometimes not; and they are seen with and without, in the same herd.

Grant's gazelle differs from Thompson's in much the same way that the water buck differs from the impalla; the one is built for strength, the other for speed—although both are graceful. The length and thickness and splendid spread of the male horns (sometimes more than thirty inches), which characterize Grant's gazelle among all its species, are the admiration of all animal lovers. It is therefore said that one of Mr. Roosevelt's very few disappointments, in the early stages of the expedition, was the taking of a Thompson's instead of a Grant's gazelle; but the rarer and more remarkable animal was brought to his game bag later.

CHICAGO OF EAST AFRICA.

Nairobi, with its back against the rising forests of Kikuyu and its feet planted in the Athi plains, is an epitome of New Africa and the Chicago of the British East African protectorate. Like the Chicago of the United States it is an interior city of diverse population—say one thousand Europeans, three thousand Indians and fourteen thousand natives—and like the American metropolis is the center of railroad, telegraphic, commercial, political and social activities. The city is seen through many glasses of many colors. Doubtless its site is on low ground in comparison with the country to the north, but it is 5,450 feet above sea level and the Europeans, who observe sanitary laws, have suffered no serious epidemic. The only one which has ever threatened was the bubonic

plague, which was brought in 1902 by the Indian coolies employed on the Uganda Railroad. No European was ever attacked by it and out of the sixty-three cases among the Indians only nineteen proved fatal. Their filthy huts and crowded barracks were then razed, and since then Nairobi has been a healthful city even for the colored citizens.

Nairobi was started, as the railroad center of the Uganda line and that is still its strong feature, from a business and industrial standpoint. The station and offices are large and orderly and the shops are filled with all the modern machinery and tools for repairing the cars and engines of the road. A large number both of the native blacks and Indians are employed in the iron works, and many of them have become what even Europeans concede to be skilled mechanics. The Africans, even before the advent of the railroad, had learned to turn out from the most primitive furnaces and forges, and with the crudest tools, weapons and ornaments of iron which evinced great natural aptitude; and since the advent of modern instructors and devices they have made remarkable progress. After the railroad buildings come the government buildings, hospitals and military barracks in point of interest. Nairobi is the headquarters of a brigade of the King's African Rifles, and the buildings mentioned occupy the higher ground to the north of the city proper. Within Nairobi are modern hotels, good stores and some handsome bungalows, but the majority of residences are one-story houses with tin roofs. The city is in intimate telegraphic or telephonic connection with the scattered forts or posts throughout the protectorate, as well as with the ranches all along the line of the railroad from Kapiti Plains to Port Florence; and, besides being military, railroad and telegraphic headquarters, is the central point for the administration of the East African Protectorate police. Politicians swarm; officials—railroad, military, police—are everywhere; in fact the cynic says that "every white man in Nairobi is a politician, and generally the leader of a party." Autos sweep through the streets; golf, cricket and tennis are played on well kept swards by English boys and girls, and lawn parties are given under the glare of electric lights, the power for which is generated from a dammed stream of the Athi River several miles away. At the same time so close is wild Africa that the sweet music of the garden orchestra may mingle with a lion's roar, or an electric light may glitter in the eyes of a jackal. Nairobi also has its race weeks and regular dances for the amusement of the town people, the militia and visitors.



ROOSEVELT HUNTING GROUNDS

Eastward from Nairobi, between the Athi and Tana rivers and for miles around Mount Kenia, is the great region which has well been termed the paradise of hunters for big game. It is a country so varied in surface and soil—presenting jungles, dry plains, grassy hills, rocky steeps, wooded streams—that no variety of famous game is without a home and retreat. Even the monkeys have their inaccessible grounds in the region of Mount Kenia.

NAIROBI AS THE GREAT OUTFITTING POINT.

Naturally, Nairobi is the central point for the final organization and outfitting of the hunting expeditions, or caravan parties (safari), and in the busy season (say from December to March) it is nothing unusual to see two or three starting out daily. The caravans are also arriving from the East and Southeast, some even overhauling the train and obtaining more modern transport than afoot, the porters loaded down with antelope meat, elephant tusks, lion skins, and other trophies of the chase. On the same train which pulls into Nairobi may be a refrigerator car packed with ice, fresh sea fish and foreign fruits and vegetables. These are probably consigned to some European or Hindu merchant—most likely the latter—who will easily dispose of his stock to the hotels, the thousand or more English, German and American residents, or the aristocratic and, at the same time, democratic plantation owners to the East.

HOSPITABLE PLANTERS OF THE HUNTERS' PARADISE.

To these great estates, some of them many thousand acres in extent, good roads lead across country from the railroads, some hundred miles in all directions. Not only does this new landed aristocracy make some attempt at rais-



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WATERFALL—TANA RIVER DISTRICT.

ing potatoes and European fruits and vegetables, but strongly corraled cattle as well, and it has been prophesied that, with the gradual moulding of the natives into industrious and skilled agriculturists this region and other sections to the Northwest will become great producers of cotton. The frontier

post of British civilization northeast from Nairobi, and the virtual termination of this hunters' paradise, is Fort Hall, on the Tana river, nearly opposite Mount Kenia and about ninety miles from the railroad. It is a supply station for the hunters of the region, an emblem also of British authority, and is the terminus of the telegraphic and telephonic system, which centers at Nairobi. Excluding the African game from the picture and some other features of the landscape, one might well imagine that he was among well-to-do Western farmers of the United States. But as the East African host arises from a



HIPPOPOTAMI BASKING IN THE SUN.

good dinner adapted to English, German or American taste, takes polite leave of My Lady, adjourns to the smoking room, leisurely finishes a Havana, takes his rifle from the walls, hands another to his guest, and then adjourns to the broad veranda to see if any lions, leopards or wildebeests are in sight—it is then quite certain that we are in New Africa.

Wise man that he was, Theodore Roosevelt chose such agreeable and favorable surroundings as these to extend his knowledge of the wild beasts of the world, and enjoy the excitement and the healthful exercise of the chase.

The intimation is not to be conveyed for a moment that he was any parlor hunter. But who would refuse the friendship and hospitality of such men as



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CURING STRIPS OF ANTELOPE MEAT AFTER A HUNT.

Lieutenant E. W. Jackson, in charge of the British game reserves, and acting governor of the protectorate; of Sir Alfred Pease, whose plantation is near Mackakos and the Athi river, about thirty miles southeast of Nairobi; or of

William N. McMillan, of St. Louis, Missouri, United States of America? The last named, one of the expert hunters of Africa, is proprietor of a plantation of 20,000 acres in the great Athi plains, twenty-two miles east of Nairobi, his vast estate of big game being modestly called Juja Farm. All of these gallant landlords, with their ladies and others, were proud to entertain the ex-President and point his party in the right directions for game, and, of all men, Theodore Roosevelt was the most ready to be thoroughly pleased with their kindness and helpfulness. Mr. McMillan is the special patron (saint) of the American sportsman, and, as one of his guests has put the matter: "At the African home of my American host, all East African game is abundant except rhinoceros and elephant, sable, roan antelope and oryx; but the last are to be had by a journey of from two to five days (to the Mount Kenia region). Hundreds of game animals are nearly always in sight from the veranda of the house. I have lighted a cigarette in my room at daylight, gone forth and killed a big wildebeest bull before the cigarette was consumed. In fact, the 20,000 acres of Juja Farm so swarm with game after the rains that before the dry season is half over the grass is eaten as short as on an overcrowded cattle range; and all from the overflow of the great game reserves north and south of us. Notwithstanding their great numbers, it takes marksmanship to get game on the Athi plains; for they are bare of cover and it is unusual to get a shot at anything except lion or hippopotamus short of from three to six hundred yards." Further east toward and beyond the Tana rivers and around Mount Kenia are to be found the other kinds of game which were hunted and shot by the Roosevelt party—the elephant, during the dry season in the dense mountain thickets and, during the rains, in the bush and long grass country; hippopotami in the rivers in the daytime, or along the banks from dusk to morning; rhinoceros in every unexpected place; antelope generally on the open plains; little dik-dik, leaping through the long grass; leopards everywhere, but as elusive as snakes; reedbuck in the scrub of steep rocky hills; lions prowling wherever their game abounds, seeking especially the zebra and all the equine kind; and the buffalo, in dark swamps and forests, or concealed in high elephant grass. With these descriptions, the reader should be able to form a mind picture of the hunting grounds over which Roosevelt ranged for several months, with the sportsmen and naturalists of his party, under the general and skillful guidance of Mr. Cunningham. At this point in the narrative it seems desirable to describe, somewhat in detail, the beautiful and surprising gems of landscape to be seen in the Mount Kenia region, the eastern limits of the Roosevelt hunt.

BETWEEN NAIROBI AND FORT HALL.

A good road for carriages, wagons or automobiles—and you see them all—runs from Nairobi, via Fort Hall and Embo, to the wonderful region of which Mount Kenia is the center. Embo is twenty-eight miles from Fort Hall and is the most distant military post which the British have established in that direction. Fort Hall is nearly opposite Mount Kenia, south of the Tana River, and Embo lies to the southeast of that wonderful dome of nature.

The road which takes one to these outposts passes through a varied country, often wild and seamed with gorges in its first stages, but generally fertile and well watered by various tributaries of the Athi and Tana rivers. The spacious colonial estates, or ranches, are scattered along the route for thirty or forty miles from Nairobi. One farm may grow coffee—which is such a luxuriant crop—and on the next estate may be herded together, by a native child or full-grown, a miscellaneous but placid assortment of ostriches, sheep and cattle. A complete dairy farm is liable to be in operation in the vicinity; also a truck garden producing sweet potatoes, Indian corn, beans and other vegetables may adjoin it. At one place is to be found a plucky English family grappling with a ten-thousand acre farm, their neighbor an old Boer, who, after having trekked the length of Africa to avoid the British flag, now stolidly smokes his pipe by his grass house, tends to his small herd of indifferent looking cattle; in his way, is hospitable to his British co-workers, and eager enough to show the tourist what he knows about the whereabouts of lions.

About half a day's safari from Fort Hall, where the Chania and Thika rivers effect a juncture with the main stream of the Tana, is a beautiful meadowy tract within sight and hearing of fine plunging waterfalls, and the locality is one of the favorite camping grounds for lion hunters. It is an agreeable programme, after indulging in the sport the first half of the day, to spend the afternoon in a ride to Fort Hall, through a green, comparatively smooth and pleasant country. There will be found the commissioner's house, with a ditch around it, a jail, an Indian bazaar and a few houses for the militia and police. If the visitor is fortunate, he will arrive while a great gathering of Kikuku chiefs, warriors and women is loudly discussing the dance of the following morning. He will then accept the commissioner's invitation to stay over night. In the



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WARRIORS, WOMEN, AND CHILDREN, AT FORT HALL WAITING TO GREET THE GREAT AMERICAN,
AND PARADE AND DANCE IN HIS HONOR.

morning, long before daylight, the whole space in front of the fort is packed with almost naked warriors, while the beating of drums, the blowing of horns and the chanting of voices in a crude rhythm fully awakes all would-be sight seers to the coming war dance. And when the "indaba" does begin, later in the morning, it is a sight to be remembered. The pack of plumed, squirming, gyrating, yelling warriors, their hair and chocolate colored bodies smeared with red earth and glistening with the slimy juice of the castor oil plant; legs and arms encircled with twisted wire or heavier iron ornaments; leopard skins waving from their shoulders, and their broad cowhide or rhinoceros shields, painted with tribal emblems, and long spears clashing together, as particular chiefs advance and retreat in the dance, or as gifts of live sheep and bulls are brought forward into the arena—these are the weird features of the exhibition. The laughable side of the picture is the obvious fondness of the African warrior for any European article of clothing, which he proudly parades before his people—an old pair of trousers, a torn jacket, a weather-stained uniform, a ragged umbrella or battered helmet. Mixing such articles as these with their time-honored ostrich plumes, capes of leopard skin, belts of monkey fur and metal anklets and bracelets, is a characteristic but still ludicrous mingling of New and Old Africa.

ON TO THE EXTREME EASTERN POST.

The road to Embo is through a beautiful country well cultivated by the natives, and the thoroughfare itself is maintained by them (under the supervision of the district commissioner) in such good shape that a bicycle could take to it without fear of a puncture. The Tana is crossed by a ferry, which travels along a rope impelled by the current of the river. This convenience is only for such human kind as Colonel Roosevelt and his party; their ponies have to swim the sixty yards of foaming water, reddened by washings from the soil. From the further bank is obtained a noble view of Mount Kenia, gradually rising from its great base to an altitude little short of Kilimanjaro. All along the road smiling, peaceable natives meet the traveler with extended hand—in the other a spear or sword—and the only real danger to be feared is the mad, sudden and unaccountable charge of some hidden buffalo. Embo is at length reached. It consists of a one-story, three-roomed stone house containing quarters for the commissioner and military officer, as well

as a jail; two Indian bazaars built of corrugated iron, and several rows of grass huts for the 150 soldiers and police on duty. Embo stands for the authority which keeps in subjection 75,000 natives, most of them little beyond savagery. Its terrible jail consists of a tiny room, seldom occupied by a prisoner except as a comfortable sleeping place. Now that the native tribes are pacified the soldiers have little to do, while the police are mainly concerned with the enforcement of the game laws. The civil authorities stationed at Embo and Fort Hall have under their eyes the Mount Kenia region, which is wonderful both for its beauties as well as zoological variety.

A BABOON'S PARADISE.

Perhaps the first noteworthy feature of the approach to Mount Kenia is the bright colors of the flowers—blue, yellow, pink and crimson. After a rain the velts are covered with these little beauties, which protest against the general charge that an East African landscape is almost colorless. As the blue-wooded ridges skirting the mountain unfold in detail, the stunted jumper appears and higher still the wild olive grows along the river banks. Still miles away from the actual base of Kenia, approaching from the northwest, the traveler enters a tract which has never been better described than in the following: "The level country is thickly sown for twenty-five miles with great masses of red granite, outcroppings of the same formation. A Celt would say that the devil or the giants had been at war or play in the old days, and that these rocks were the mighty sling-stones they had hurled from the mountains at each other. Some of them are one hundred feet high, some nearer four hundred feet; all are imposing. Round their rocky bases the grass grows so smooth and fresh it might be a carefully tended lawn. Sometimes the dust of the great stones must have added a richness to the soil; and the sward, smooth still, has buried their broad bases for some feet under its carpet. Then the prairie falls away from one, and rises gently towards the next in curves and dips of green. They are half a mile apart, or only fifty yards, as it may be. Some rise sheer and steep with no crack or crevice for bush or vine. On some dwarfed wild fig trees climb and cling. All are of a rich red granite, and the sides and crowns shine and glisten gloriously in the light of the rising and setting sun. In the highest and most inaccessible, great troops of little

gray monkeys have found the safest of hiding-places and of homes. There no climbing serval, cat or leopard can do them harm, and up and down the sheer sides of the cliffs they race and play—they look just like flies walking on the ceiling; not like animals at all.

“As I got nearer still to the densely wooded country that lies before me, the masses of rock gradually soften their outline and merge themselves in higher and more regular hills and ridges, always covered with greenery, that rise up and up till they meet the great flanks of Kenia. The sun was now high in the heaven—yet the vapors still clung among these purple-blue foothills. In other lands you see the clouds rise up slowly, steadily from the woodland. Here sometimes they have a way of rising all their own—the breeze bids them be going, but they linger and cling as it were to their home of the night that is over.”

GREAT HUNTING GROUNDS OF LAIKIPIA PLAINS.

The above is from the pen of Dr. W. S. Rainsford, a former New York clergyman, who has tracked and killed big game all over the grounds covered by the Roosevelt expedition, from Mount Elgon, above Lake Victoria Nyanza, to the Mount Kenia region. In one day's approach to that glorious mountain, through various tracts of beauties and surprises, he records a sudden stumbling on two rhinos among the bush; in his circuit to avoid them, running into an ostrich family hidden in a gully; a striking view of seven giraffes twining their necks and feeding among the topmost boughs of a thorn tree; meeting herds of oryx on the plains, and footprints of lions, elephants and antelopes crossing his path in all directions; and the noiseless crawling of a huge crocodile from a river sand bank into the yellow stream. Finally comes a stretch of curving, green meadows pressing up to the mountain forests of Mount Kenia. Dense as these are, with giant bamboo more than sixty feet in height, they have been penetrated to the bare uplands, ten thousand feet above. Herds of elephant and buffalo are common in these almost untrodden mountain solitudes; but the chosen home of the rhinoceros is along the dry and barren slopes of the Guaso Nyiro River, covered with cactus growths.

In these terrible cactus jungles of the Laikipia Plains have occurred some of the most narrow escapes, and also the most awful deaths, of rhinoceros hunters. Further away from the river are favorite grounds

for various kinds of antelope and fairly out on the veldt, between the wooded hills and the plains which stretch to Mount Kenia is found great numbers of the noble African antelope known as the oryx. His special haunt is a few miles up the Guaso Nyiro River, above its junc-



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HEADWATERS OF GUASO NYIRO—THE HUNTER'S PARADISE.

ture with the Guaso Narak and among the red granite kopjes which rise from the Laikipia Plains. This is a lion country also; and it is no unusual sight to see a dead king of beasts impaled on the long sharp horns of the oryx, which also lies dead beside his victim. Further, the headwaters of the Guaro Nyiro River are said to embrace one of the greatest buffalo grounds in East Africa.

WHERE TO FIND THE COLOBUS MONKEY.

In this secluded region of clear sweet water, great juniper trees, stately ferns and wide-spreading chestnuts, the chattering parrots and monkeys also hold high carnival. This special land of canyons and botanic luxuriance has been selected by the shy and pretty colobus monkey as his own. The region around Kijabe, where the Roosevelt hunters shot their first specimens of this species, is virtually deserted in comparison with the tropical tangles around the headwaters of the Guaso Nyiro. In the early morning the cry of the colobus sounds through these dense woodlands, like the rapid grinding of a coffee mill. There he sits on a high branch of a juniper so as to be well in the sun, drying his fine coat of white and black and his long snowy tail, after his night's sleep in the dewy depths of the woods. It seems a pity to end his little life, even for the sake of the Smithsonian Institution, or in the world-wide interest of natural history.

TRACKING THE BIG GAME.

The true modern hunter finds his greatest excitement in the "chase," however great his satisfaction may be in overtaking the big game and bringing it to earth; and in skilful tracking, although the native's services are usually brought into use, the white hunter is often able to give away points and still beat the black man at the game he has been playing for generations. With all his wonderful keenness of the senses, in which he runs so close a race with the big game itself, the black tracker lacks the general intelligence of the white to draw the correct conclusion from what he sees, hears and smells. But by using the black hunter as his tool, his extra hand, the white sportsman gets a combination which lion, rhino, buffalo, hippo, wildbeest or antelope find hard to beat. This was the union which made the Roosevelt expedition so effective.

In running down their big game the old hunters in the party, such as Selous and Cunninghame, were able to distinguish the animals from its spoor or track, as readily as the best natives in the party. They had not only seen them in many countries, and on all kinds of soil, but had even studied their forms in dozens of books illustrated with reproduced photographs. Each native could judge only from his limited experience. First, the white hunter realizes that he should learn to distinguish the track of a full-grown bull of any species, as the game laws so jealously

guard the female and her young. Usually the tracks of the female are smaller, while those of the young have an unformed appearance. It is also remembered by the expert that the same spoor will look differently on hard or soft ground, clayey or sandy soil, and according to the action of the animal when he leaves his tracks—whether he is walking, trotting or galloping. If the ground is very gritty, the shallow impress left by the big game is invisible when viewed from above, although it may be seen obliquely several yards away. The hunter governs himself accordingly when he comes across this kind of soil. If the ground is very rocky, no actual track may be visible, but the hunter is then on the lookout for pebbles or stones overturned, exposing the earthy side, with the weather-beaten side down; or vegetation rubbed off the rocks, bruised or even bent. There is another form of spoor occurring on hard, dry soil, sometimes made by a buck, but usually by a lion, rhino and the softer footed animals; that is a slight brushing of the ground with the pad, dislodging a little dust and giving the soil a somewhat lighter color than that surrounding it.

Then there is the grassy country. If the grass is short and green, it is not difficult to trace the progress of the animal by the bruised appearance of the track. The line of drooping blades shows the direction the animal has taken and a little patience will be rewarded by some bare soil with a distinct track. Of all varieties of grass country the most trying for the trackers is that covered by the huge elephant grass, as it is usually trampled in well beaten paths by rhino, buffalo and elephant. As the big game has continually to be followed over such ground, the plan of the hunter is to follow a well-defined run, and whenever a branch path leads away follow it in the hope of discovering some tracks on other spoor which will point to the nature of the game and the comparative time of his passage. Sometimes by lifting the thick layers of dead grass the tender shoots beneath will be found freshly bruised, yielding at least a portion of the information sought.

Returning to the tracks of the big game hunted and killed by Roosevelt and his party, it may be stated in general terms that the spoor of the lion's forefoot, as of all cat-like animals, is rounded and wider than that of the hindfoot. It is larger than that of the leopard, and the track of the male is considerably larger than that of the female. Claw marks do not show unless the animal is about to spring, and then they cut deeply into the ground, tearing up earth and grass.

The tracks of the elephant are considerably larger than those of the rhino and hippo, and, unlike these, hardly show any toe marks, except a faint impress of the two front ones. When stampeding these two toes show a deeper impression, especially in the forefeet. With both elephant and buck the hind track is smaller and more oblong than the fore. The tracks of the rhino and hippo are much the same size, but when seen at all clearly may be readily distinguished; as the former has three broad toes which usually leave a firm impress, while the hippo has four



AN OLD ELEPHANT KILLED NEAR MT. ELGON.

The length of tusks indicate that he was at least 150 years old.

pointed toes with nails. The buffalo leaves a track not unlike that of cattle, but much larger. It is often confused with that of the eland; that is, the track of a full grown bull eland is sometimes hard to distinguish from that of a small buffalo. But buffalo leave a cleaner-cut spoor than the eland's, walk flatter footed and, moreover, leave another mark of their identity which is unmistakable. The droppings of the buffalo not only resemble those of cattle on a large scale, but the second day after they are deposited the maggot of the Mputsi fly appear in the dung.

This fly lays its eggs in no other dung than that of cattle. Another habit of the rhino also tells the hunter that he is not following the hippo, elephant or other big game. The rhino does not scatter his droppings along his route, but after depositing them in one place for a time returns, scatters the pile and scratches earth over it.

Having learned to recognize the tracks of the fore and hind feet of the big game, the next thing to be considered is the manner of placing them while in motion. In the case of the buck, while walking the hind foot is in front of the forefoot; on a jog, on top or slightly behind, and



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SKINNING AN ELAND ANTELOPE.

while on a gallop the hoofs are always spread out. The lengths of strides of the different animals at their different paces have also to be learned; and putting various indications together, the hunter will be able to form a tolerably correct conclusion as to the distance he will be obliged to travel before overtaking his game.

Sometimes when all signs of tracks and droppings are insufficient, the browings of the big beasts leave their tell-tale. Suppose the hunter in a tangled country of elephant grass, such as abounds in the Mount Kenia region, should find his path crossed and recrossed with tracks of

elephants, rhinos, eland and other big game. He is after one kind, not all. His surest plan to get on the track of his particular game is to closely note the browsing indications. A branch torn from a thorn tree, or a bit of chewed thorn dropped on the ground shows that he is in the wake of a rhino, while a long strip of bark torn from the top of a tree would mean elephant. As he walks along the latter is in the habit of gathering young shoots with his trunk and after eating the leaves, throwing little bundles of stalks on either side of the pathway. The eland seems careless and destructive, tearing off great branches from the trees, stripping off the bark and scattering everything right and left. The condition of the browsings left behind also affords the tracker some of his surest indications as to the comparative time which has elapsed since the game was on the ground. The sap at the break of a limb; the bruise on the grass or bush; the rubbings of the buck's horns against the tree; the condition of the droppings—a dozen and one signs will tell the hunter whether he is on a comparatively fresh track. Then, with an intimate knowledge of the habits of the beast—especially his regular times of going to water and his characteristic conduct when he knows that he is stalked—and the hunter will eventually run down his game. The next desideratum is to keep cool, and patiently wait for an opportunity to get in the vital shot.

THE PROMISING DEATH SHOTS.

All big game hunters now agree that the brain shot is the proper one for the elephant. But it is not often attempted, from the fact that the brain is very small in comparison with the bony structure around it. When the sportsman accurately knows the position of the brain—that it is fairly low and well back—he takes the ear orifice and the eye as indexes of the general line of his shot. If he gets a broadside position, he aims for a spot about two inches forward of the ear hole in a line with the eye. A direct frontal shot is avoided as too uncertain. A bullet at the back of the ear, when the elephant's head is turned away from the hunter is usually deadly. The deadliest shot, however, is considered the raking one, by which the bullet is placed at the back of the neck. The heart lies on the right side of the body; but neither the heart nor the lung shot is to be compared with the brain shot. In fact, unless both lungs are pierced the elephant often gets away.

The most deadly shot for the rhino is also that in the brain, with a bullet placed in the center of the neck as a good second. In following a wounded rhino he is always found with head high up, waiting for a charge, in which case a raking shot through the shoulder generally sounds his death knell. As the hippo is generally found in the water, shots at the head must be the rule; and his most certain death is to be encompassed by taking him when his head is turned away and planting the bullet on an imaginary line drawn across the base of his ears. In



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TROPHIES OF THE HUNT.

the case of buffalo—one of the hardest to kill in the list and among the dangerous when wounded—there is no more vital point to endeavor to reach than the point of the shoulder if the beast is broadside; if facing, with head up, the base of the neck; if quarter facing, the side of the neck, so the bullet will rake through the body to the opposite shoulder. The dum-dum, expanding bullet is nearly always used for this ferocious brute. But, taken all into consideration, the lion is really the most dangerous of the big game, as in proportion to the number killed he has caused

the greatest fatality among hunters. Particular care is therefore exercised in waiting for the opportunity to drive home the most fatal shot. The point of the shoulder and the base of the neck are the localities to be aimed for. Most of the fatal accidents have occurred when following a wounded lion into grass. As to buck, the best spot to aim at is the shoulder, for if the heart is not struck the lungs may be, or the arteries around the heart damaged, or the shoulders so shattered that the animal will be unable to run. If facing, the hunter generally tries for the base of the neck, so that the bullet will rake the vital organs from front to rear. Some of the buck are the most difficult to kill in the whole animal kingdom, not only getting away with perforated lungs and shattered limbs, but with their very entrails dragging on the ground. The first shot is therefore the all-important one—in the case of the bigger game because the life of the hunter may depend upon it, and of such as the buck, because the game may escape the hunter.

CHARMS OF THE LION CHASE.

First, see your lion. The charms of the lion chase consist largely in pitting human wit against animal instinct, and getting the beast in such a position that he must either stand or run. With all the uncertainties of his conduct, the general policy of the lion is to mind his own business and especially to avoid trouble with man. Still, he sustains his reputation of being the most wise and uncertain of the big carnivora. He will even go so far as to retire meekly from a freshly killed buffalo or zebra upon the approach of the hunter; but if the sportsman be persistent, and the beast makes a stand, it means a fight to the death. But often a hunter may search for days without even getting a sight of His Kingship, even though his spoor may be fresh and his killings on all sides. One expert states that during his six months in British East Africa he spent thirty days looking for lions in a country where they were thick about his camp every night, often seeking entry to the tents, and twice making kills within a few yards of where the safari slept.

It is generally considered that the safest lion shooting is on foot and the most favorable ground a naked plain. As was the rule in the Roosevelt hunts, a pony man runs the lion to bay and the chief approaches afoot from another direction. Under such circumstances the lion invariably charges at the pony man—first, because he likes horseflesh and,

secondly, (perhaps) because he holds the latter responsible for being brought to bay. And when once shot, if the wound is not through heart or brain, the beast advances, increasing its pace with the reception of each additional bullet. The last thirty or forty yards is covered like a whirlwind—the swiftest thing on earth—and the momentum sometimes carries the great brute right to the feet of the hunter with a bullet through the heart.

BLIND CHARGE OF THE BLACK RHINOCEROS.

On at least two different occasions Mr. Roosevelt dropped his lion as the beast was making one of its whirlwind charges, and upon one occasion saved the life of his pony man. He also experienced the almost equally terrific charge of the black rhinoceros—about as resistless, but shorn of some of its dangers from the fact that the rhino's sight is so bad; his charge is therefore literally blind. He gets the "tainted air" of some human "vermin" and forthwith lowers his ugly head and horns and charges in the direction of the obnoxious thing, whether it be a hunter's safari, a body of Masai warriors or a company of the King's African Rifles. Everything and everybody scatters before the awful brute, who blunders through the wreck, right on, seldom returning to the same attack. The rhinoceros loves to lurk in dark jungles, or forests, and no other of the big beasts is so given to charging with less provocation than he; among them all he seems the most "possessed of the devil." The white rhinoceros is a most rare animal, as compared with his black brother of East Africa, and few of this species have been shot within recent years. One of the lucky hunters to bring a white rhino to his game bag was Captain Richard Dawson, of the British Coldstream Guards, who made the shooting in July, 1909, in the Sotik district, northwest of Kijabe, where the Roosevelt party was operating at the same time, hoping especially for similar good fortune.

TERRIFIC ONSLAUGHT OF THE BUFFALO.

As the rhino's sense of smell is remarkably acute, so is the buffalo's sense of hearing, as well as his eyesight. He selects more awful places in which to hide and quietly listen than does the rhino to dilate his nostrils for "tainted air." He hides in great papyrus swamps, jungles of elephant grass or dense forests. The lone bull buffalo is a terrible animal and often charges without provocation, and will often hunt the

hunter, coming upon him unawares and tossing him into eternity. A wounded buffalo has a nasty trick of appearing to run away as if panic-stricken; then, after dashing away for a mile or so, well out of sight, circling round and returning to the trail. Then hiding in the high grass or forest, he patiently awaits the coming of the hunter in the hope of charging him unawares. As his vitality equals his cunning, and both are backed by an awful strength, the buffalo is considered, next to the lion, the most dangerous of the big beasts.

SABLE ANTELOPE.

The sable antelope is mentioned here because, albeit not of large size among his kind, he is one of the most dangerous. He has long spear-like horns and is usually hunted with a pack of dogs. A herd of sable antelope when finally brought to bay is certainly a noble sight, and after the first encounter their pursuers are careful indeed of the distance they keep between their bodies and those death-dealing horns. In spite of their nimbleness more than one good dog is usually impaled in a hunt, and the sportsman himself has even met death by coming in too close. The sable antelope is smaller than the roan and his coloring is different, though the shape of the body is quite similar in the two species.

HARTBEESTS AND GNUS (WILDBEESTS).

Perhaps of all the soft-skinned beasts of big caliber in Africa the hartbeests and gnus are the hardest to kill. The wilambeests are not so difficult to stalk, but their vitality and staying qualities are something phenomenal. When sound they will invariably outrun a horse, and even when shot through the lungs they have been known to gallop out of sight.

The hartbeests are a species of antelope named "hard beasts" by the Dutch, who had the first long experience with them in South Africa. The British often varied their christening by calling them "nasty beasts"; and all because the creatures posted their sentries in such a wonderful manner that it was almost impossible to get within fair shooting distance of a herd. The three varieties common to British East Africa are Jackson's, Coke's and Neumann's. They are all of a rich fawn color of varied shades and also vary somewhat in the shape and size of the horns, Jackson's hartbeest carrying the heaviest and longest.



NEW AFRICA.

IN BLACK AND WHITE.

HAVING left the Roosevelt expedition in the hunters' paradise of British East Africa, it seems a fitting opportunity to briefly retrace the route taken by the Uganda railroad, which is virtually fixing New Africa on the map of the world, and first describe the country through which it passes in "black." The tribes of colored men seem now reconciled to the new order of things and are no longer to be considered as dense savages, but as considerably more than semi-civilized.

THE WANYIKA.

A few miles out from Mombasa commence the little villages of the Wanyika—sometimes not more than a small collection of huts, surrounded by a high fence of trees, vines or thorny shrubbery. Such defenses are partly a remnant of the days when they were subject to the attacks of the fierce Masai warriors or the equally merciless slave hunters; but they are still necessary as protections against lions and other flesh eaters. They raise vegetables and fruits on small tracts of land, or occasionally act as cattle herders, and are scattered with camps of railroad employes or squads of irregular infantry nearly to the Athi plains. Their appearance bespeaks considerable Arabian blood.

MURDER OF THOMAS LONDON.

Although generally peaceable, the Wanyika sometimes allow their avarice to overcome their scruples and caution; and perhaps this should not be charged up to them as a conclusive evidence of their savagery. Perhaps their latest crime against the human life of a white was the murder of Thomas London, a British hunter in the region not far from the coast. Being hungry and thirsty, he approached a village and paid a native boy a silver dollar for a cocoanut. Such a large sum for so small a favor aroused the cupidity of an old chief, Makelinga, and when Mr. London had laid aside his gun and was bending over to wash his hands, the native leader, with three confederates, sprung upon him and stabbed him to death. Only five dollars were found upon the dead; but the murderers were tried and convicted at Mombasa and hung on the scene of their crime, August 28, 1908.

THE WAKAMBA, OF THE ATHI BASIN.

The Wakamba have the distinction of being not only the largest tribe of East Africa, but the only one which has never acknowledged permanent defeat at the hands of the Masai. They are both farmers and herdsmen. Like most African tribes they are very superstitious, having their hoodoos against witchery and their official witch doctors, who are sometimes more powerful than the chiefs. After harvest the doctor always makes his rounds of the villages, receives gifts and endeavors to "smell out" the witch in each community who has been responsible for the sudden deaths and other misfortunes of the year. When she (for it is generally a woman) has been located the villagers gradually desert her, leaving behind only one grim warrior, who, at the first favorable opportunity, pins her to the ground with his spear and leaves her to a death of keen agony or slow torture. In case her death struggles are too prolonged, the villagers return and stone her to death. A village near Machakos station seems to have been a favorite location for enforcing "Kinyolla," as this hideous custom is known, some forty women having met their fate there within a year.

THE MASAI, WITH CLAWS CUT.

The once warlike Masai, not unlike the Sioux of the United States in their heyday, are now virtually pacified and kept within the bounds of their reservation on the Laikipia plateau, northwest of Mount Kenia and northeast of

Nakuru. Once as much hunters of men as of lions and other wild beasts, they were for years the terror of all the native tribes of northeast Africa between Lake Victoria Nyanza and the Red Sea, excepting perhaps the powerful Wakamba already mentioned. They were loosely confined within these western and eastern bounds by the Uganda confederation of tribes and by the Somali warriors. Years ago they were almost a nomadic race, like the Sioux of North America or the Huns of the old world, sweeping the country with their wild forays of rapine and destruction. They took their cattle with them,



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MASAI WIVES BUILDING A NEW VILLAGE.

and it was the wholesale destruction of their herds by plague which caused many of them to establish villages and form a distinct division of the tribe. Then until they abandoned the warpath within recent years, at the "suggestion" of the British authorities, the Masai were generally divided into warriors—splendid specimens of chocolate colored young manhood, never less than six feet in height—and those who had served their time at feats of arms and had settled down to married and domestic life. The warriors, or free-



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GOING FOR HIS BRIDE. RIDING THE COW THAT IS TO PAY FOR HER.

men, lived in camps, while the more staid populace dwelt in the villages, herded the cattle and raised grain and vegetables. At the age of puberty the youth of proper physique was set apart as a warrior by the rite of circumcision and not only thoroughly drilled by veterans in the use of the long-

bladed assagai, the short sword and club and the oval shield of buffalo hide, but was placed on a strict diet, alternating between meat and milk. The young men were attended by unmarried girls and women, who did the cooking and performed all necessary domestic offices.

READY FOR THE WAR PATH.

When the young man, or "elmoran," was ready for the war path he was certainly a sight calculated to inspire fear. Gorged with blood and meat, to raise his animal passions to the utmost, his oblique eyes blazed from his chocolate colored face, encircled by ostrich feathers, which were carried above his frizzy hair in the form of an oval headdress, so increasing his natural height as to make him appear gigantic in stature. His shoulder cape was of vulture feathers, and his belt and anklets were made from the fur of the Colobus monkey. When, therefore, he leaped along the war path, with his long lance tipped with thirty inches of keen steel, his feathers ruffing around him like an enraged bird of prey, it is not singular that he struck such terror into the heart of a savage foe as to half win the battle before it was even begun. In the days when the Masai were in their prime as warriors, no young man dare return to his camp without human blood on his spear, or booty to appeal to the admiration and affection of his sweetheart. Once married, he settled down in one of the villages and was allowed to vary his diet with vegetables.

As the cow is the main food supply of the Masai, it is necessary that the young warrior who is about to turn Benedict should present his prospective father-in-law with a first-class animal, both as an earnest of his honorable intentions and as actual pay for his bride. His journey to the home of his fair one is usually made on the back of his sleek gift, the young suitor being accompanied by a body-guard of friends.

THE MASAI OF TODAY.

The young Masai, though he may no more go forth to slay his brother, is in demand by the white hunter as a helper or guide, and he also maintains his old-time reputation as one of the bravest sportsmen in the world who has ever faced the lion. When he now returns single handed, with his spear dipped in the life-blood of the king of beasts, the whole village turns out to give him a deserved ovation.

The Masai villages are still built in the form of a circle, surrounded by a strong thorn fence, and the cattle are carefully herded within. The huts are made of bent boughs and the roofs plastered with cow dung. Although the



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YOUNG MAN HONORED FOR KILLING A LION.

dresses of the men and women are in the transformatory period, they generally retain their old-time characteristics. The women wear a profusion of string beads and anklets of iron and brass, with a small apronlike garment in front

of the body and a longer garment behind. The men, not in military costume, wear an upper garment of tanned skin, and a length of cloth fastened at the neck and hanging down behind. Their armlets are of ivory and horn; they wear ornaments of slender iron chain, showing good workmanship, and their



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PLAYING BAO.

hair is usually gathered in a chignon which hangs between the shoulders. Their ear-lobes are distended with ornaments, for, like other semi-civilized tribes, they are loaded with the bulk of attractive things for the edification of the opposite sex. In that particular they follow the usual order of birds and animals, among which it is the male who is aflame with color and is loaded

with the noticeable adornments. They seem to have few amusements, but, like many other African tribes, are partial to games of chance, or gambling. Bao, as their most popular gambling game is called, is represented in full swing in the accompanying illustration.

Generally speaking the Masai of today are dignified and self-contained, capable agriculturists and herdsman, quick witted and possessed of considerable oratorical ability. They are a mixed Ethiopian and negro race, those in whom the former blood predominates having good features—so good, in fact, that, barring their chocolate color, they would pass for Europeans. Their general appearance, bravery and adaptability to military discipline are so much in their favor that many of them have been incorporated into the King's African Rifles and are employed with good effect in the British work of "pacification." With the Swahili, the Masai have given names to the animals of British East Africa.

THE SWAHILI AND KIKUKU.

The Swahili are perhaps the most polished and sedate of any of the native tribes of Central and East Africa. They are noted traders, are Mohammedans and, in their flowing white garments, much resemble the Arabs. They number fully a million souls and have their pretty villages and bazaars as far east as Mount Kenia.

It is said that the Kikuyu, between Nairobi and Mount Kenia, number some 300,000 souls, and, although they have made as much progress as any native tribe in agriculture, they are considered unreliable as citizens and the protectorate police are obliged to keep a keen eye out for them. Further to the west and north, from the Mau escarpment to the Laikipia Plains and beyond are the villages and huts of the Wandorobo, scattered along the Tana and its tributaries and hidden in the depths of the forests. They are among the oldest professional black hunters in Africa and will be exterminated before they become farmers. They are exceedingly primitive and live mostly on game and honey.

NAKED TRIBES NEAR VICTORIA NYANZA.

The country from Kibigori station to Kavirondo Gulf (the eastern arm of Lake Victoria Nyanza) was inhabited by tribes who, notwithstanding the present-day influences of several years, might still have just emerged from the Garden of Eden—many even minus the proverbial fig-leaf. The females load themselves with bead necklaces and other

ornaments, and the men delight in elaborate head-dresses, made of feathers and banded with ivory. They are laughing, merry people, live in villages surrounded with aloe hedges, and usually surround the traveler with curious looks and gestures, quite unconscious of their condition. Physically, they are bronze models for the artist and sculptor—tall, symmetrically developed, gentle-mannered, peaceable, and, from the most reliable accounts of European travelers, are chaste and moral. Of course, the efforts of the new civilization has resulted in some clothing of the naked, albeit the majority still cling closely to the instinct of their forefathers in the matter of dress, or no-dress. Apropos of dress reform among the Kavirondo—the story is told on a good English lady who, having been shocked at the sights she saw, stopped at Port Florence, the terminus of the railroad, long enough to purchase a huge bundle of cloth of home manufacture. This she sent down to Kibigori for the purpose of being distributed among her dusky sisters; but what was her disgust, on her return from a short stay at Entebbe, to find that the aforesaid sisters had passed all the goods over to their husbands and lovers, who were all adorned with beautiful fresh turbans.

THE NANDI TRIBE.

North of the Kavirondo was the Nandi tribe. It is an offshoot of the Masai and, like the parent stock, its members are cattle fanciers and warriors. On scenting danger from hostile tribes, or British soldiers, it was their custom to make off into the forests and rocky gorges marked by the Nandi escarpment, and securely hide their flocks and herds before venturing forth themselves. Even then they did not come into the open, but after they had posted their sentries on every commanding hilltop in the country, and learned from the answering shouts the position and strength of the enemy, they were ready to commence their ambushed warfare with poisoned arrows. They gave the builders of the Uganda road some trouble; but more as thieves than as warriors. When they first set eyes on the fine metal used in the tracks and telegraph, the savage love for ornamentation overcame all other desires—even the desire to avenge the coming of the white man. For months the progress and operation of the line toward the lake were seriously impeded by their thefts of telegraph wire for bracelets and earrings and railroad bolts for fancy spear heads.

Much of the history of the Nandi and Kavirondo tribes is written in the past tense, as they are among the unfortunate people who are victims of the Sleeping Sickness, which has killed two hundred thousand people in the regions tributary to Lake Victoria Nyanza; and as no cure has yet been found for the terrible plague the order has gone forth that all tribes inhabiting the infested area shall be removed back into a safe country. The Sleeping Sickness had been especially destructive to the Kavirondo, as the tsetse fly, which produced it, had free access to their naked bodies.

NATIVE KINGDOM OF UGANDA.

One of the chief objects in building the Uganda Railroad was to tap the rich native kingdom of Uganda west of Lake Victoria Nyanza. It is a well organized state, composed of a union of the most intelligent and progressive of the Baganda tribes. They have well been termed the Japanese of Africa, as they possess a wonderful power of absorbing and practically applying the knowledge derived from European contact. Even before Cameron and Stanley came among them, rumors had reached the outside world of a far-advanced native confederation holding the country between lakes Victoria and Albert Nyanza. But it was not until its last autocratic King was banished by the British and a protectorate assumed that the state was organized along modern lines, although the Catholic and Episcopal missionaries had planted many seeds which had borne good fruit. The territory is now divided into twenty counties, each county ruled by a chief, and the entire state is governed by King Daudi Chwa, who, as he is only about thirteen years of age, is under the guardianship of three regents. The native parliament consists of the regents and county chiefs named, sixty Notables (three from each county) and six Persons of Importance, all appointed by the King and subject to the veto of the British government. Besides the establishment of a virtually modern monarchy, Uganda has also made a great advance toward modern standards in the abolishment of the most objectionable features of polygamy—such as the selling of women for wives.

Physically, Uganda is a land of beauties—gorgeous landscape effects, highly colored birds, enormous moths and butterflies and tropical luxuriance of vegetation. The soil is wonderfully rich. The country is simply unctuous with bananas. Cotton grows everywhere, and other

products, either native or introduced, are cocoa, coffee, tea, oranges, pineapples, lemons, rubber, hemp, vanilla and cinnamon. More wonderful still, most of the fruits and vegetables of the temperate zone thrive well. Is it wonderful that the British wanted to get into railroad connection with such a country?

It is one of the sad and most dramatic features of modern history that this wonderful country—this intelligent people, so eager for knowledge and so capable of absorbing and profiting by it—should be devastated by the mysterious plague of the Sleeping Sickness. The efforts of modern scientists and philanthropists to discover its causes, eradicate it and save Uganda itself from extermination are noted at the last of this chapter.

WHITE BELT.

The White Belt of British East Africa comprises the country north of the Uganda Railroad from Kapiti Plains (or perhaps Nairobi) to Port Florence, for an average of forty miles inland, wherein is studded most of the plantations, stock farms and private hunting grounds of British, German, Boer and American proprietors—many of them settlers. There are those who assert that, on account of the remoteness of the producing territory and South American competition, coffee will never be a profitable crop, although so readily raised from the soil—the same objections applying to fruits and vegetables, especially potatoes. It is naturally a fine live-stock country; but the fever tick has been imported from German East Africa and has made such inroads among the cattle as to discourage many live-stock raisers. The native cattle are usually black and white, and small compared with the English species. If left to themselves and the devices of the native African they would undoubtedly perish under the attacks of the fever-spreading tick; but new and vigorous blood is being introduced into the native herds from European sources, and the white scientist has discovered that by wiring a herd of sheep in a tick-infested area the insects are soon exterminated. Their bites are harmless to sheep, which also eat the insects without loss of appetite or health. So that the live-stock industries of British East Africa may eventually flourish exceedingly; but a majority of the prophets seem to vote in favor of King Cotton as the coming monarch of the soil, pointing to the fact that both in the lowlands and uplands it has been grown with success.

Within the White Belt of British East Africa no class of actual settlers are showing more adaptability and rugged determination to wring substantial results from the old, dormant country than the Boers, many of whom had planted themselves in the soil before the British protectorate was even dreamed of. Some of the richest lands along the railroad lie around beautiful Lake Nakuru, where the line makes its first decided turn to the westward on its way to Lake Victoria Nyanza. At this locality is one of the largest and most prosperous Boer colonies in East Africa, most of the settlers being housed in the typical corrugated iron buildings, which are not pretty to look at, but are both light, strong, cool and weather-proof. As the altitude here is more than seven thousand feet above sea level, it is not always heat alone against which the householders need protection.

GREAT SCENIC SECTION OF RAILWAY.

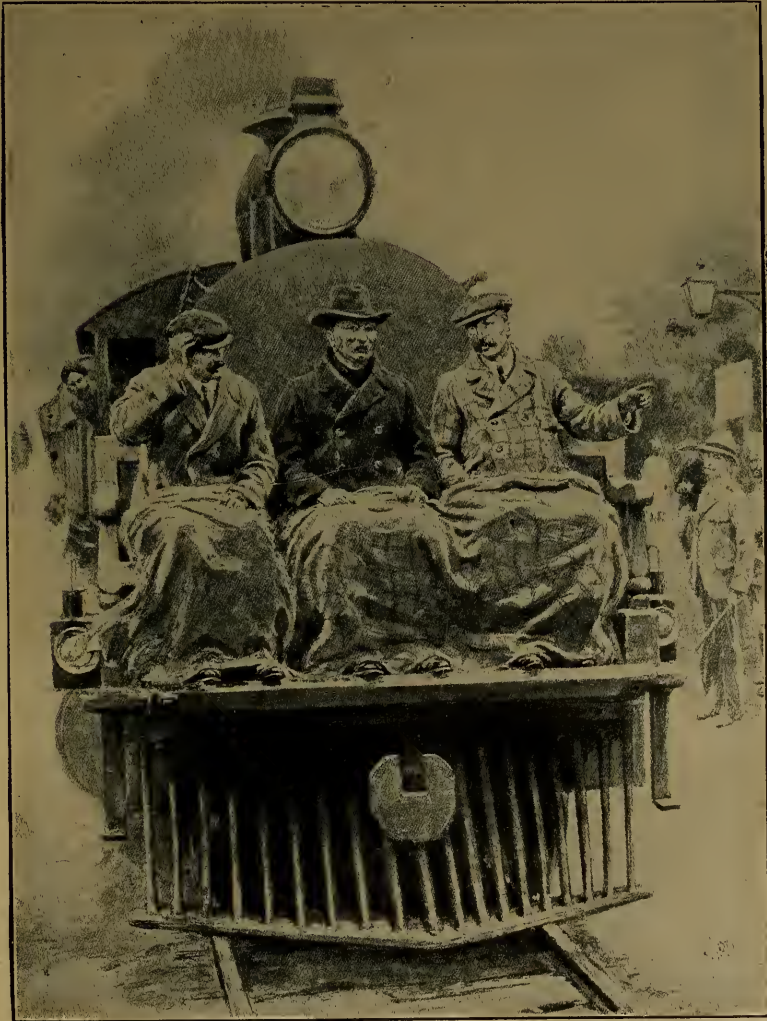
The great scenic section of the Uganda Railroad is from Nairobi to Nakuru, during which the country rapidly rises through a series of alternating escarpments and valleys to an altitude of nearly eight thousand feet at the Mau Escarpment beyond the latter station. During the first twenty-four miles out of Nairobi the rise is some two thousand feet. To the west of Nairobi, at the foot of the Kikuyu hills, the plain country abruptly ends. As far as the eye can see extends a frowning wall of forest-clad rocks, and when the train has struggled to high ground, now six thousand feet above the sea, it shows the tourist one of the most impressive sights in East Africa.

ESCARPMENT STATION AND RIFT VALLEY.

From Escarpment Station the railroad pitches and zigzags its way into Rift Valley, fifteen hundred feet below, its broad expanses being broken by strange volcanic formations. Some of the shattered craters in the valley are not inactive, and one slumbering volcano is planted in the middle of Lake Naivasha. To the west the valley is barricaded by the lofty Mau hills and cliffs, which collectively form the escarpment which bends toward the northwest and crosses the railroad beyond Nakuru. Before the days of the railroad the traveler was lowered over the escarpment into the valley below, or elevated from the valley to the heights—as the case might be—by an old rope lift.

ON TO KIJABE STATION.

Kijabe, which is the next station beyond Escarpment, is well named "The Wind," as it is one of the bleakest places along the road. One of the most interesting expeditions from Nairobi was that made by the ex-President and his party to Kijabe, a station on the railroad forty-



ROOSEVELT, MAJOR MEARNS AND THE TRAFFIC MANAGER VIEWING THE COUNTRY ALONG
THE UGANDA RAILWAY.

four miles northwest of the city, which is the headquarters of the African Inland Mission. It is an independent American organization, with home councils in Philadelphia and London, and several schools are conducted at Kijabe for the education of missionaries' children and the industrial training of the natives.

The party, which consisted of Mr. Roosevelt, Edmund Heller, Major Mearns and Kermit Roosevelt, arrived at their destination on the afternoon of June 3rd, the Colonel, the Major and the traffic manager riding about half the way on the cow-catcher so as to obtain the full benefit of the glorious scenery in the Rift Valley. They were met at the station by the porters and the American missionaries, and passed the night in tents near the railroad. The next morning the party spent some time shooting Colobus and green-faced monkeys, as well as rare birds. In the forenoon Mr. Roosevelt made a thorough inspection of the mission, and afterward had luncheon with forty of the missionaries and their wives and settlers in the country.

LOVELY AND MYSTERIOUS LAKE NAIVASHA.

One of the greatest wonders and beauties of the Rift Valley is Lake Naivasha, about an hour's ride from the Escarpment Station. This sheet of water is about ten miles square, and the rim of a submerged crater makes a crescent-shaped island in its midst. Although its waters are rather brackish they are always sunny and glisten like a "Tear" in the rather somber landscape; and it should be added that "Naivasha" translated into English is a "Tear." "Almost always," says one who looked upon the scene with a bright eye, "there is a smile of sunshine on her waters, while on the other hand there is as often a black frown of thunder clouds rolling over the Mau and a white cap of rain on the peak of Longonot"—the latter being a rather portentous looking volcano which almost closes the further end of the Rift Valley. But though the water of Lake Naivasha is by no means sweet, its bosom is covered with pink, white and blue lilies, and is fringed with sedges; seeds and papyrus. It is also the home of myriads of Egyptian geese, cranes, herons, ducks and snipe. The borders of the lake and the islands scattered over it are especially favored breeding grounds for herons, who love to feed among the herds of native cattle pasturing on the grassy slopes which roll away from Naivasha toward Nakuru. Hippos abound in the lake, but there are no crocodiles; and toward the northwest is big game of

all kinds, as well as a fine region for bush buck, while on the wide grassy flats and the lower slopes of the hills are great flocks of sheep and goats, herded by the natives.

GOVERNMENT BREEDING FARM NEAR NAIVASHA.

At the government breeding farm, a few miles from Lake Naivasha, efforts are being made to cross the zebra with the horse or mule, in order to produce a hybrid which may both resist the diseases of the country and at the same time be easily tamed and be valuable as a beast of burden. This attempt to solve the horse problem in British East Africa has not met with as much success as the government's efforts to improve the native hairy sheep and the humped African ox. The former has been so crossed with Sussex and Australian blood as to be transformed into a very respectable wool-bearing animal, while the native hump is disappearing, and the mixed ox is coming on the scene as a fair Shorthorn.

NAKURU AND ITS CHARMING LAKE.

Salty though it is to the taste, as are most of the bodies of water in this region, Lake Nakuru is charming both in the vegetable and animal life which it supports. A rich grass country surrounds it, which, as stated, is thickly settled by Boer farmers. Beyond, along the Mau Escarpment, is one of the finest pieces of railroad engineering in East Africa, consisting of nearly three miles of viaducts, or twenty-seven separate iron bridges spanning beautiful valleys and foaming torrents. The really interesting part of the great engineering feat lies in the fact that it is really an American achievement—a demonstration of American ingenuity, pluck and technical skill.

FROM FORT TERNAN TO PORT FLORENCE.

At the station called Fort Ternan the railroad has fairly cut through the Mau Escarpment, and thence to Port Florence, or Kisumu (the native village), carries one through a swampy but fertile country—the approach to Lake Victoria Nyanza and the region infested by the tsetse fly and devastated by the Sleeping Sickness; the country of the Nandi and the Kavirondo. Fort Ternan, which has been dubbed a “placeless

name," is about forty miles from the terminus of the road and some thousand feet above it. This section of the line taps a level country of brilliant green dotted with small parks of flourishing trees.

APPROACH TO LAKE—PORT FLORENCE.

Realizing that Lake Victoria Nyanza is the greatest of the African lakes and, next to Lake Superior, in the United States, the largest body of fresh water in the world, Mr. Roosevelt shared the common disappointment of all travelers who approach it from the east for the first



time. The country is so flat around Gulf Kavirondo that all that can be seen is an unimpressive arm of dirty brown water thrust out into the landscape—no vast expanse of blue waters stretching to the horizon, with appropriate settings of rocky cliffs or smiling shores. But the train soon runs onto the pier at Port Florence, which is little more than a transfer station from the railroad to the steamers which ply across the

lake to Entebbe, the capital of the Uganda protectorate, and to other interesting points in the native kingdom. It has also a large dockyard, at which all the lake steamers are built and repaired, and the resident part of the modern town contains trim houses, well shaded and backed up against the hills which overlook the gulf at this point.

BIG HUNTING GROUNDS TO THE NORTH.

Before crossing the lake to Entebbe, the sportsman always samples the noted grounds for big game, lying between the Nandi escarpment and Mount Elgon, especially along the Nzoia River and along the southern slopes of the mountain mentioned. It is an especially fine lion country. All through the lower Nzoia country, in the comparatively level stretches of sward, are great ant-hills interspersed with clumps of thorn bushes. The ant-hills form good points of observation for the hunter and the thorn bushes fine screens. The lions also like to mount these towers and survey the country for game, or, if they are tracked, to discover the progress and position of their pursuers. This ant-hill country is favorable, it seems, both for lion and lion hunter, when the sportsman is afoot; but it is obviously no place for horsemen. When following the animal into cover, the hunter should, if possible, determine whether he is after a lion, or lioness with cubs. During May, June and July they run together in mixed bands, which is a favorable season for hunting them; during the other months the females withdraw from the males and bear their litters. The months between July and May may therefore be called the dangerous months for the sportsmen. Besides the lion, the whole country from the Nandi hills to and along the Nzoia River abounds in buffalo, eland, roan antelopes, giraffes, Jackson's hartbeests and water and reed buck. Better still, from the railroad to the Yala River may generally be found several herds of elephants, one seeming especially to haunt the locality near Kibigori station; but the great grounds of the monster game are east and southeast of Mount Elgon.

ACROSS THE LAKE TO ENTEBBE.

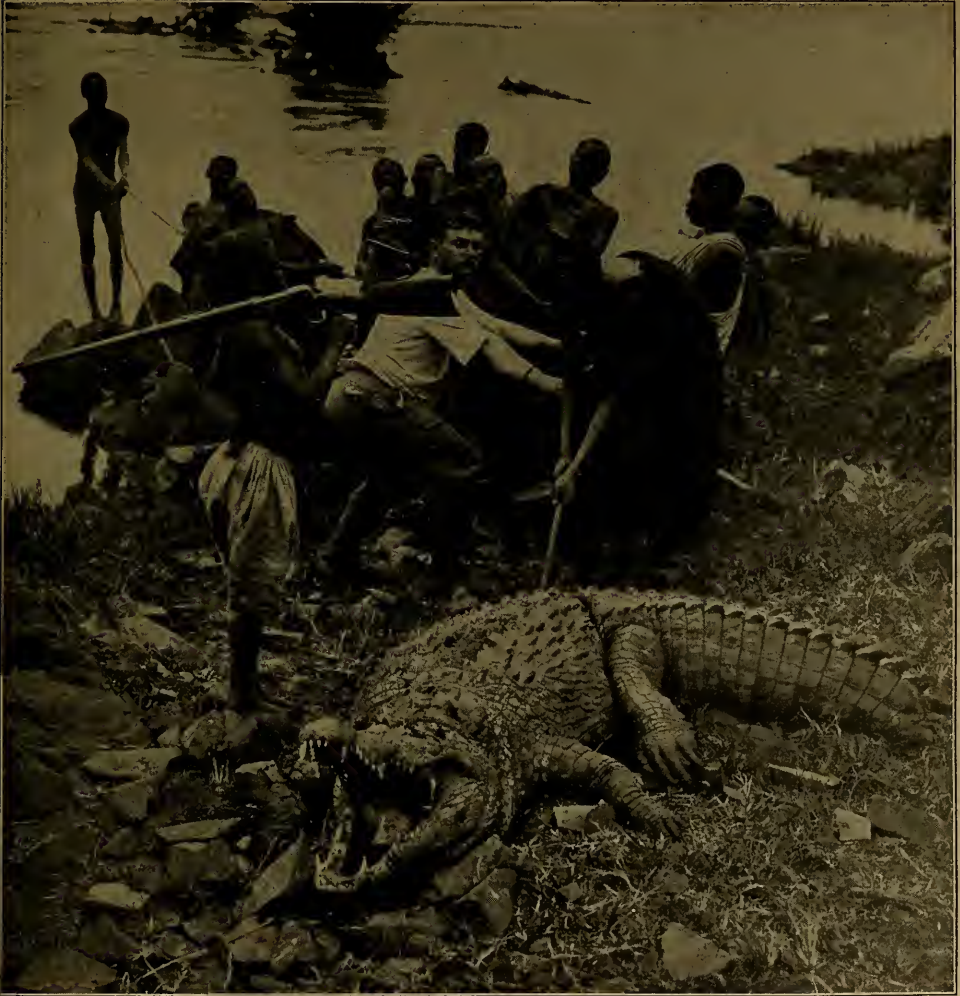
Entebbe, across the lake from Port Florence, is the administrative capital of the Uganda protectorate and is connected with Kampala, the native capital, by a well constructed twenty-five-mile road (not rail-

road). There is another fine pike from Kampala to Lake Albert Nyanza; and the entire distance of two hundred miles may be comfortably covered in an automobile. Entebbe itself was carefully planned and built. It has such a charming location, surroundings and accommodations for the visitor that many are suggesting that the literal translation, "The Chair," should be rendered more freely "The Easy Chair." The houses are mostly brick, with corrugated iron roofs of red, and the official residences are surrounded by large gardens, connected by broad avenues. Flowering trees are planted along the streets, and many of the gigantic forest trees have been left where they originally stood. As to club and social life it is a repetition of Nairobi, plus a beautiful site. The shores of the lake, and the islands with which it is studded, are ablaze with the brilliant colors of plant and bird, and the air laden with tropical perfumes and the myriad noises of insect, monkey and the feathered tribe. The slopes between the town and the lake have been converted into a fine botanic garden, which is a condensed exhibition of the plant and animal life around.

THE SLEEPING SICKNESS.

Eight years ago this beautiful region of islands and tropical forests, of fertile land and teeming vegetation, was densely populated by industrious and progressive natives—tilling the soil, herding cattle and learning to be good citizens, according to their lights. Since they have been swept away in great waves of death by the Sleeping Sickness, and one of the most interesting institutions of Entebbe is the laboratory of the Royal Commission on Sleeping Sickness, where experiments are conducted in the hope of getting at the cause and remedies of the terrible disease. At one time four thousand incurables were slowly dying in Uganda hospitals, and thousands more expecting to take their places. Up to the present time, however, only a few Europeans have died of the malady, one of the unfortunates being Lieutenant Tulloch, who contracted the disease while making the initial experiments at the laboratory and died shortly after his return to England in the summer of 1906. The only deaths in the railroad districts east of the Mau ranges have been of Uganda natives who have contracted the disease at home, and it has never advanced beyond Mount Kenia to the east or Mount Kilimanjaro to the south.

Sleeping Sickness has been known in Africa for more than a century, but its connection with the tsetse fly was not recognized until 1902. The infection, or organisms known as trypanosomes, is conveyed by this insect in some manner not yet clearly ascertained. The incubation period is about three weeks. Then comes an irregular fever, ranging



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CROCODILE CAUGHT ON THE SHORE OF LAKE VICTORIA NYANZA.

Natives live in terror of Crocodiles and kill them whenever they can. In some tribes no young man is considered a real warrior until he has speared a Crocodile. Then all the belles of the tribe worship him.

from a few days to weeks, with progressive weakness, swelling of the glands, affections of the skin, and final paralysis of the entire nervous system. There may be an interval of years—as many as seven—before the profound lassitude, the real onset of the Sleeping Sickness, approaches. The patient then becomes an automaton, even forgetting to chew the food which is placed in his mouth, finally dying of starvation, convulsions or local paralysis. The mortality of the disease, when once implanted, must be given as 100 per cent; there is no hope, except in prevention.

Professor Koch, the great German scientist, who has made so thorough an investigation of the matter, has added to the difficulties of the case by offering proofs that the disease may be transmitted in other ways than by the tsetse fly. He also claims to have discovered a connection between the disease and crocodiles, as in the neighborhood of Lake Victoria Nyanza the tsetse fly subsists almost entirely on the blood of these reptiles. Tsetse flies, both males and females, are blood-suckers and feed during the day. As they fly so swiftly and alight so softly, it is very difficult to detect them until after the mischief has been done.

ROOSEVELT'S ENTERTAINERS AT ENTEBBE.

Mr. Roosevelt was deeply interested in this status of the great fight between science and the Sleeping Sickness of East Africa, and his host and hostess at Entebbe gave him every facility to investigate the efforts being made to stamp out the plague. Mrs. George Francis McDaniel Ennis, his special hostess, is the only American resident of Entebbe, and a charming author, woman and entertainer. She was formerly Miss Ethel Kirkland, of Chicago, daughter of Major Joseph Kirkland, a brave soldier and an able writer—for some years literary editor of the "Chicago Tribune." Mrs. Ennis met her husband while traveling, the latter being en route to assume the judgeship of the Uganda protectorate. They have a son, and a beautiful, completely appointed home; no one of note, in fact, since they became residents of Entebbe has left the place without enjoying their hospitality. Of course, the formal reception of Colonel and ex-President Roosevelt, with his party, was at the hands of Sir Hesketh Bell, the governor; but the real home entertaining—the attentions which went to the great American's heart—were from Mrs. Ennis, his countrywoman; and no better God-speed toward the Nile and civilization could have been devised.

LION HUNTING IN AFRICA

Roosevelt Meets the King of the African Forests in His Native Jungle—Three Lions Bagged in One Day—Interesting Facts About the Lion.

Nothing is more exciting in an African hunter's experience than his first encounter with the lion. Mr. Roosevelt had long been waiting for this crowning event in his life as a sportsman with eager anticipation. In British East Africa, where lions are more numerous than deer in our western states, he



AN EAST AFRICAN FARM.

did not have to wait long for the fulfillment of his expectations. After a short stay at Kapiti Plains on the Uganda Railroad, he broke camp and soon reached the ranch of Sir Alfred Pease, beautifully located on the shores of the Athi River. Our illustration shows one of the farms in this neighborhood,

where English settlers or office-holders are endeavoring to establish themselves as comfortably as the conditions of a new tropical country will permit.

One day three lions had been discovered attacking a buffalo who had been grazing on the prairie near the edge of a dense jungle. As the hunting party approached they saw traces of the lion's cruel rule all over the "velt," where bones of zebras and antelopes were the only remnants of its ghastly repast. The hunters stopped at some distance from the jungle, while the native beaters drove the beasts toward them. Two of the lions, scenting the danger, bounded off and hid in the jungle. But the third, blinded by fury and fear, and with a



From photograph.

BLACK MANED EAST AFRICAN LION.

roar that reminded of a distant thunder, came leaping through the air swift as lightning, and would in a second have buried its sharp claws in the quivering limbs of its awe-stricken victims—when just in the right moment a rifle shot resounded through the breathless silence of the plains, and the ex-President's first big African game tumbled to the ground, hit in the brain by a soft-headed bead from his never-failing Winchester barrel. The two beaters, one an ebony-colored native, the other a white man from Sir Alfred's ranch, were saved, and "Bwana Tumbo" had established his reputation on African soil as an unrivaled crack shot.



EX-PRESIDENT ROOSEVELT KILLING HIS FIRST LIONS IN EAST AFRICA.

This, however, was only the beginning of the achievements of a strenuous day. No sooner had the loud shouts of the natives announced this glorious triumph over their sworn enemy, than one of the beaters came running from the creek to tell them that another lion had been seen along the sandy banks. The party at once started off to track the game. Following the sandy trail along the shore, over stony ground and through patches of underbrush and coarse grass, they expected to see the "simba" at any moment, but a heavy rain had blurred the spoor in the soft sand and made the tracking somewhat difficult. At last the track was totally lost in the wet sand and the party made a halt, ready to give up the fruitless search. But our strenuous ex-President would listen to no such advice. The old lion hunter Selous sided in with him, and off they started for another high river-bed, towards which the lion had been seen running. Luck favored them this time, and they soon were on the track again. The trail led to a thicket of three-foot-high grass, reed and bushes forming a dense jungle on a little island. The native beaters began shouting and throwing stones in this hiding place, where nothing could be seen but the luxurious impenetrable tropical vegetation, while our hunters posted themselves on the opposite side, ready to receive the jungle king. A terrible growl was soon heard, there was a rustling in the underbrush, and with a swift leap the lion darted towards the Colonel. He came so close that the bold sportsman almost could feel his hot breath tickling his nostrils. The situation was an exciting one. Missing the target meant a sure death between the jaws of the beast. Not losing a second the ex-President threw his Winchester up to his shoulder and sent a buzzing bullet through the lion's heart while at the highest point of its leap.

"That's a fine one," the Colonel was heard to exclaim, when the heavy body of the brute touched the trembling ground.

It would seem as if the two trophies won in one day would have been enough to satisfy the most ambitious sportsman. But they had only just whetted our American nimrod's appetite. Disdaining the smaller game that swarmed around his safari, he said to his companions: "Let us find another lion," and off they started again. The rays of the tropical sun fell upon their heads like burning blasts from a furnace, and everyone felt the depressing effect of the murderous African climate. But on they marched—natives, English and Americans—inspired by the indomitable energy of the most strenuous man on earth. The region through which they went excels in beautiful tropical scenery. Diverse varieties of palms, olives and fig trees

form symmetrical groves and little copses all over the plains, while varicolored flowers fill the atmosphere with their intoxicating flavors, and relieve the monotony of the waving grass, where herds of wild and tamed animals rove around, and beautiful singing-birds adorned with the most brilliant feather shrouds, glittering in all the colors of the rainbow, enliven the somber hue of the landscape. But all this marvelous mosaic of nature could not captivate the eyes of our mighty hunter. He had already tasted the exhilarating excitement of the contest for the bigger game, and was eagerly longing for another chance to make use of his skill. And this opportunity was not long in coming. As they were marching along at a rapid pace a large maneless lion's tawny shape was suddenly seen at some distance, through the tall grass. The beaters, encouraged through the prowess and boldness of the illustrious American hunter, approached its crouching form less cautiously than usual. The beast saw its dangerous situation and with a terrible roar came bounding straight on the foremost beater. Terror stricken, the man turned and ran towards the Colonel for protection. He, too, was on a run, though in the opposite direction. Two lives were in jeopardy. Nothing but a sure aim and a quick hand could save from death. But Mr. Roosevelt lived up to his reputation. With the same cool presence of mind that has characterized all his actions, whether leading his Rough Riders to victory against the Spanish lines or at the helm of our government in fight against reckless lawbreakers, he instantly sized up the situation and acted accordingly. The lion turned its right flank towards him and held its head down in the tall grass, thus making it impossible to hit its most vulnerable parts—the heart or the brain. But swift as a lightning flash the ex-Presidential bullet came whirring through the air and struck the beast right through the spine and down he went, to rise no more.

It was a master shot, indeed, and the alert and quick-eyed natives were not loath in appreciating the unequaled skill of a hunter who, in one day and on his first lion hunt, had killed three of these ferocious marauders under so thrilling and exciting circumstances.

The lions were skinned by the natives and carried to the camp, where the African beaters and bearers celebrated the events of the day in the usual way, by songs and dances, for the killing of a lion is always made an occasion of festivities among the native tribes.

The spoils of the day having been disposed of, and the hides properly cared for by Mr. Heller, the professional taxidermist of the expedition, the

party started on its way back to Sir Alfred's farm, where they joined the other members of the safari. Our illustration gives the reader a vivid idea of how Roosevelt's caravan looked. It is a photographic reproduction of an East African safari, showing the bearers with their loads. Upon leaving the Uganda Railway our African travelers had chiefly to depend on their own legs for locomotion in penetrating the wild hunting grounds, the natives acting as animals of burden, getting 15 cents per day and food, consisting



From photo.

A SAFARI ON MARCH THROUGH EAST AFRICAN WILDERNESS.

of maize, beans or antelope meat. The daily march is from 15 to 20 miles, and it is estimated that between 75,000 and 100,000 of them are constantly employed at present.

During the first three months of his African hunt Roosevelt killed not less than seven lions. Their skins were prepared by the skilled taxidermists who followed the expedition, and sent to the Smithsonian Institution in Washington.

Many strange things happen on the chase in British East Africa. When they were sitting around the camp fire one night, Mr. Selous told Colonel Roosevelt the following interesting experience: He and Mr. McMillan were one day out in this same district, accompanied by Judd, a professional hunter,

after lions, and Judd was following Mr. Selous on a mule. Suddenly his mule nearly stepped on a huge lion, and as the mule swerved Judd fired from his hip with his rifle and almost simultaneously the mule bucked him off and he landed almost touching the lion.

He thought his last hour had come and prepared to make a fight for his life, but to his surprise the lion did not move. Then he suddenly realized that the lion was dead. He got up and inspected it, and found that his shot had entered the eye and killed it instantly, without leaving a mark on the skin. Mr. McMillan took the skin home to have it set up.

At Mweru on the Nyeri road, man-eating lions have been playing havoc with government safaris and traders' safaris, so that at last the government was forced to close the road to the traffic.

It is estimated that some hundred native men, women and children have lost their lives to these man-eaters, and so if Colonel Roosevelt kills them he will have done the community special service.

The lion is not only one of the largest and most dangerous, but also one of the most interesting of all the wild animals of Africa. We therefore will give our readers an account of its habits and history, accompanied by illustrations showing the king of the forest and the jungle in his native haunts and surrounded by his tropical environments.

"As bold as a lion" is the phrase most commonly used to express the highest order of courage, for by general consent the people of all countries have bestowed upon the lion the title of "King of Beasts." Certainly no other animal is so noble and majestic in appearance. Its massive head, upon which, in the case of the male animal, there is usually a long, thick mane, the King's Crown, as it were, its stout, thick legs and huge paws, together with the graceful formation of its body and sweeping tail, make it the most imposing and splendid looking animal known to natural history.

Of late years one authority has disputed the lion's title of "King of Beasts." Mr. F. C. Selous, the famous hunter, says that the lion does not carry its head as high as it should, and that it is lacking in many traits that we usually ascribe to a noble animal. Livingstone, the great explorer, declares that the lion is more correctly described as cowardly and mean than brave and noble, yet I know many instances where the lion has shown itself to be the most courageous of animals.

In common with the other large cats of the Old World, the lion has the pupil of the eye circular; but it is at once distinguished from all the other

members of the family by the long hair growing on the head, neck, and shoulders of the males to form the flowing mane. This mane varies in size and color in different individuals, but, contrary to what has often been stated, is seen on Indian as well as on African lions. Frequently the long hair of the mane is continued as a fringe down the middle line of the belly. Another distinctive characteristic of the male lion is the brush of long hair at the tip of the tail. In the middle of this brush of hair, at the very extremity of the tail, is a small horny appendage surrounded by a tuft. Much speculation has been indulged in as to the use of this so-called "thorn" in the lion's tail. One old story says that it is employed to rouse the animal to fury when the tail is lashed against the flanks.

The hair on the remainder of the body of the male lion, and on both the head and body in the female, is short and close. In the adults of both sexes the color of the body-hair is the well-known yellowish-brown, or tawny, but the tint varies in different individuals. The long hair of the male's mane may vary from tawny to a blackish-brown. Young lion-cubs are marked with transverse dark stripes running down the sides of the body, and likewise by a single stripe of similar tint along the middle of the back. The mane of the male does not make its appearance till the animal is about three years of age, and continues to grow until the age of about six years. The full length of a lion's life does not appear known, but it has been ascertained that they will live to thirty, and it is said even till forty years.

For a long period it was considered that the Indian lion differed from its African relative by the total absence of the mane in the male, which was regarded as indicating a distinct species. Owing to the differences in the length and color of the manes of African lions from different districts, it was likewise held that there were two or more species in Africa. It, however, has been definitely settled that such variations are not constant, and that there is but a single species. Although it may be that some adult specimens of the Indian lion are maneless, yet well-maned examples have been killed, while those which were stated to prove the existence of a maneless race are now known to have been not full grown.

With regard to the variations of the African lion, the Dutch hunters maintain the existence of from three to four distinct species.

For my part, I cannot see that there is any reason for supposing that more than one species exists, and as out of fifty male lion skins scarcely two will be found exactly alike in the color and length of the mane, I think it would be as reasonable to suppose that there are twenty species as three. The

fact is that between the animal with hardly a vestige of a mane, and the far handsomer but much less common beast, with a long flowing black mane, every possible intermediate variety may be found. On one occasion I shot two old male lions, which I found lying together under the same bush, both of which agreed as near as possible in size, but while the one was full-maned, with a very dark-colored fur, the other was very yellow and had but little mane. Shortly after, with a brother sportsman, I again met with a dark, full-maned lion in company with a nearly maneless light-colored one. Of still more importance was the killing of a lioness with three cubs, of which two



AFRICAN LION.

were males and one a female. Of the two male cubs, the one, owing to the dark color of the tips of the hair, was almost black, while the other was reddish-yellow. The skin of the female cub was also of a light color. Now I firmly believe that the two male cubs would have grown up, the one into a dark-skinned, black-maned lion, the other into a yellow lion, with but little mane; and further than this, I believe that the two pairs of males I have mentioned above were cubs of the same litters, and had been hunting in couples since their cubhood.

It seems quite probable that the lions of one district may differ to a certain

extent in some respects from those of another. Thus it seems pretty well ascertained that the lions from the Cape and Algeria have larger and finer manes than those from other districts. Gordon Cumming states that the manes and coats of lions inhabiting open, treeless districts, like the great Kalahari desert of South Africa, are fuller and handsomer than in those inhabiting forest districts.

The relative sizes of the Indian and African lion are: Indian from 8 to 9 feet, African from 10 to 11 feet; females are about one foot shorter than the males. Weight, from 400 to 600 pounds.

The present range of the lion includes the whole continent of Africa, from Cape Colony to Abyssinia and Algeria, although in many of the more civilized districts the animal is now greatly reduced in numbers, or even completely exterminated. In Asia it is found through Mesopotamia and South Persia to the northwestern districts of India, being nearly extinct in the latter country. Formerly the lion had a much larger range, extending westward into Syria and Arabia, and ranging over a considerable portion of Southeastern Europe, such as Roumania and Greece. Bones and teeth found in the caverns of Western Europe prove that lions once roamed over Germany, France, Italy, Spain and the British Isles. The ancient lions of Western Europe were exterminated, probably, by the cold of the glacial period; but the destruction of those infesting Eastern Europe and parts of Western Asia during the historic epoch was probably effected, at least to a considerable extent, by human agency.

In South Africa lions are now scarce in the districts to the southward of the Orange River, but are locally abundant in the regions farther north, such as Mashonaland. The lion is now quite unknown in Asia to the northward of India. The Arabs say it is found in Arabia; but of this we have at least no evidence. Occasionally it crosses the Euphrates, and a few years ago a lion's carcass was brought into Damascus. Between the Lower Tigris and Euphrates they still abound. Mr. Layard saw them frequently, and during his excavations in the neighborhood of Babylon, found fresh traces of their footsteps almost daily among the ruins. It extends also far higher up, to the jungle of the Khabour, or Chebar, on the upper Tigris, above Mosul and Nineveh (the ancient Chebar), where Layard mentions an Arab being attacked by one, and escaping with the loss of his mare.

Lions, which are very numerous in the reedy swamps bordering the Tigris and Euphrates, are found also in the plains of Susiana, the modern Khuzistan, and extend into the mountain country south of Shiraz. There is no accurate

information of their northern limits, but Captain Pierson, who spent many years in the country between Tehran and Baghdad, says that he never heard of lions in the oak forest west of Karmanshah. It is the acorns of this same oak forest which feed the wild pigs whose presence tempts the lion into the mountains of Fars. The little valley of Dashtiarjan, thirty-five miles west of Shiraz, is notorious for the number of lions found in its vicinity. Part of the valley is occupied by a fresh-water lake, on the edges of which are extensive beds of reeds; the surrounding hills, which rise four thousand feet above the valley, itself six thousand five hundred feet above the sea, are



LION CUBS AND THEIR HABITS.

covered with oak forest, or with pretty thick brushwood of hawthorn, wild pear, and other bushes, and contain very extensive vineyards. Dashtiarjan is thus a perfect paradise for swine, and they increase and multiply accordingly, so that the lions have plenty to eat, varying the monotony of constant pork with an occasional ibex, or with a calf from the herds which graze in the valley.

Like most of the larger cats, lions are essentially nocturnal in their habits, and they are thus frequently only met with by chance in districts where, from the abundance of their tracks and from their nocturnal roarings, they are known to be plentiful. During the daytime they are accustomed to lie asleep

in thick beds of reeds, where such are to be found, or in drier districts, among thickets and bushes.

The most likely places in the bush country in which to find lions, as far as my experience goes, are the rekabee thorns, the dense evergreens which line the rivers, and, during summer, the reeds on the margin of lagoons or streams, while in the open flats any patch of reeds or tall grass suffices to conceal them. The best chances for killing them are obtained in the first-mentioned spots, as you often come across them asleep when you are stealing about after game. From these and similar haunts, the lion issues forth at sundown to commence his nightly prowls; dark and stormy nights being those on which he is most active, while he is more cautious during bright moonlight nights, especially as regards his visits to the drinking-places.

Unlike most of his congeners, the lion is not a climber, and this general inability to ascend trees has saved the lives of many sportsmen and travelers, although not unfrequently at the cost of a long and thirsty waiting.

From observing both lions and tigers in their native haunts I am of opinion that the former are bolder than the latter, while they are certainly far more noisy. The first peculiarity that struck me in the African lions was their noisiness. I have constantly been for months together in countries in India abounding in tigers without hearing their cry. Indeed, it is by no means a common sound in any Indian forest. Leopards, I should say, are much more frequently heard than tigers. The cry of the two animals, commonly known as roaring, though it is utterly different from the harsh growl of anger to which the term might most appropriately be applied, is very similar, and consists of several deep notes uttered rather quickly one after the other, and repeated at longer and shorter intervals.

Very different impressions appear to be produced on different persons by the lion's roar, some listeners appearing to regard it as a rather commonplace and by no means awe-inspiring sound, while others, and we believe the majority, speak of it in far different terms. Such differences of impression must, it is obvious, be largely due to personal disposition.

Perhaps the lowest estimation of the lion's roar is that of Livingstone. He writes that "it is calculated to inspire fear when heard in a pitchy dark night amidst the tremendous peals of an African thunderstorm, and the vivid flashes of lightning which leave on the eye the impression of stone-blindness, while the rain pouring down extinguishes the fire, and there is neither the protection of a tree nor a chance that your gun will go off. But when any one is snug in a house or a wagon, the roar of the lion inspires no awe.

A European cannot distinguish between the note of a lion and that of an ostrich. In general the voice of the former seems to come deeper from the chest; but to this day I can only pronounce with certainty from which of the two it proceeds, by knowing that the ostrich roars by day and the lion by night. The natives assert that they can detect a difference at the beginning of the sound."

A recent writer, who is fully impressed with the grandeur of the lion's roar, is by no means disposed to admit the justness of its comparison to



A TROOP OF LIONS SEEN IN SOUTH AFRICA.

the voice of the ostrich. He observes that when a lion is "roaring loudly in concert with others at a short distance off, the sound is grand and awe-inspiring in the extreme; in fact, I have never heard anything of a similar nature that can compare with it, for it is no exaggeration to say that the ground actually trembles with the volume of sound. I say this unhesitatingly, for all that many people would have us believe to the contrary, maintaining that there is nothing in it, and endeavoring to compare it to the 'booming' of the cock ostrich. At a great distance, and therefore, when heard indistinctly, the low, sullen roaring of a single lion has certainly much resemblance to

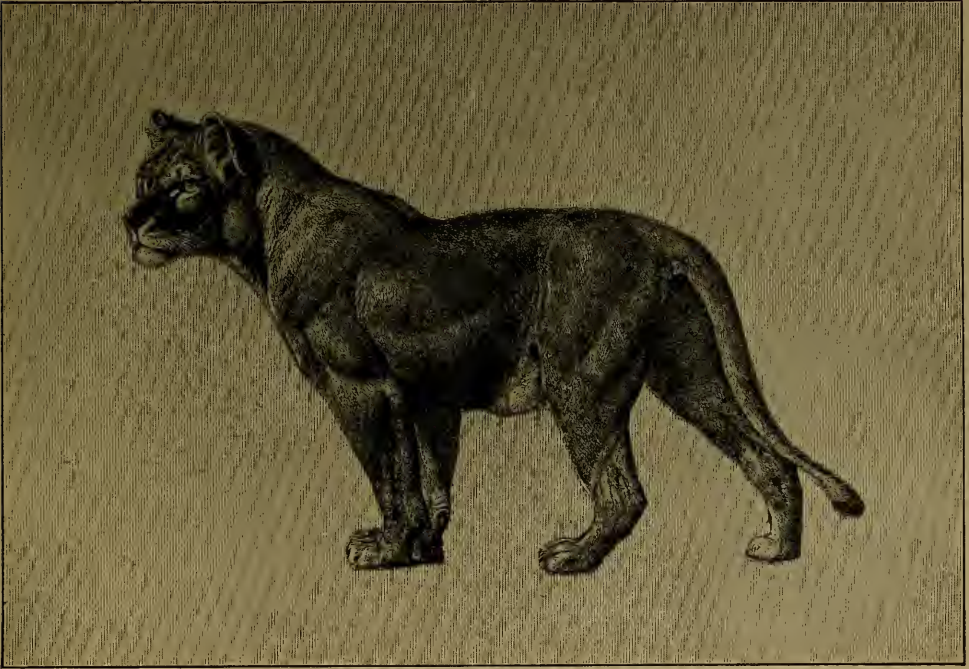
the sound emitted by the ostrich during the pairing season; but persuade either the lion or the ostrich to come nearer, and one might then as well try to compare the rumbling of cart wheels over a wooden bridge with the incessant roll of thunder among mountains. But a lion makes other sounds far more disconcerting—because usually only heard at close quarters—than that to which it gives vent when, in company with others, it has killed a head of game, or is retiring to its lair, full fed. There is the constant low growling of the lion crouching in cover, uncertain whether to fight or to fly, as, with flattened ears and nervously twitching tail, he studies the situation, hoping by his attitude to warn off the disturber of his solitude. There is the angry snarl of the lion disturbed at his meals, when his appetite is not yet satisfied, and when one has come upon him so suddenly as to give him no time to clear off; and, worse than all, the short, coughing grunts which often accompany a charge, and which startle the intruder in his domains as he bounds away. All these sounds are by no means musical, and, whether heard by day or by night, are well calculated to try the nerves.” Similar testimony as to the impressiveness of the lion’s roar is given by Gordon Cumming, who describes it as consisting at certain times of five or six repetitions of a low, deep moaning, ending off with a faint and scarcely audible sigh, while at others it takes the form of loud, deep-toned, solemn roars, quickly repeated, and increasing in intensity till the third or fourth, after which it gradually dies away in a succession of low muffled growlings, like the roll of distant thunder. Then, again, the veteran hunter Sir Samuel Baker gives his impressions in the following words: “There is nothing so beautiful or enjoyable to my ears as the roar of a lion on a still night, when everything is calm, and no sound disturbs the solitude except the awe-inspiring notes, like the rumble of distant thunder, as they die away into the deepest bass. The first few notes somewhat resemble the bellow of a bull; these are repeated in slow succession four or five times, after which the voice is sunk into a lower key, and a number of quick short roars are at length followed by rapid coughing notes, so deep and powerful that they seem to vibrate through the earth.”

This vibrating and reverberating sound alluded to in the last sentence is intensified by the habit lions often have of putting their mouths close to the ground while roaring; Livingstone mentioning an instance where a lion stood for hours roaring near his camp, and making the sound reverberate in this manner.

The intensity and grandeur of the sound must, however, be largely increased when, as is not unfrequently the case, a party of lions are heard roaring in

concert; and the din reaches its height when two or three troops of lions approach a watering-place at the same time. On such occasions every member of each troop sounds a bold roar of defiance at the opposite parties; and when one roars all roar together, and each seems to vie with his comrades in the intensity and power of his voice.

As a rule, lions commence to roar with the falling shades of evening, and continue with longer or shorter intervals throughout the night; but in secluded and undisturbed districts he has frequently heard the roaring sustained as



THE MANELESS LION OF SENEGAL.

late as 9 or 10 o'clock in the morning on bright and sunny days. During cloudy and rainy weather they will however roar, although in a lower tone, throughout the day.

Although in some districts lions are commonly met either alone, or in pairs of males and females, this does not seem to be generally the case in the interior of South Africa, where it is more usual to meet with four or five lions consorting together, while parties of from ten to twelve are by no means rare. Such a party of twelve would, in the experience of the same observer, probably comprise about two adult males, three or four full-grown lionesses,

and half a dozen large cubs, which, except for their somewhat slighter build, might easily be mistaken for mature females. On one occasion we came across a party consisting of a lion, three full-grown lionesses, and three small cubs; and if each of these females had possessed a pair of large cubs, such an assemblage would have been rightly termed a party of ten lions. It was probably such a party, although comprising more adult males, that Lord Randolph Churchill encountered during his recent journey in Mashonaland, when in company with his hunter Lee. "We were riding along," writes his lordship, "through a small open glade covered with high grass, Lee a few yards ahead of me, when I suddenly saw him turn round, cry out something to me, and point with his finger ahead. I looked, and saw lolling along through and over the grass, about forty yards off, a yellow animal about as big as a small bullock. It flashed across me that it was a lion—the last thing in the world that I was thinking of. I was going to dismount and take aim, for I was not frightened at the idea of firing at a retreating lion, but Lee called out in succession five or six times, 'Look, look!' at the same time pointing with his finger in different directions in front. I saw, to my astonishment, and rather to my dismay, that the glade appeared to be alive with lions. There they were, trooping and trotting along ahead of us like a lot of enormous dogs—great yellow objects, offering such a sight as I had never dreamed of. Lee turned to me and said, 'What will you do?' I said, 'I suppose we must go after them,' thinking all the time that I was making a very foolish answer. This I am the more convinced of now, for Lee told me afterward that many old hunters in South Africa will turn away from such a troop of lions as we had before us. We trotted on after them a short distance to where the grass was more open, the lions trotting along ahead of us in the most composed and leisurely fashion, very different from the galloping off of a surprised and startled antelope."

Lord Randolph Churchill himself counted no less than seven lions, while his hunter believed that there were several more in the party.

When a male lion has selected a female partner the union very generally lasts for the greater portion or the entire lives of the pair. From the evidence of specimens kept in captivity it is known that from two to six cubs may be produced at a birth, at least in the captive condition. It is stated, however, that in India wild lionesses do not produce more than two or three cubs at a birth. When caught young, lions are easily tamed, and the whole disposition of the animal in captivity is much more gentle than is that of the tiger.

In Persia the staple food of the lion is the wild pigs that frequent the

oak forests to feed on acorns. In India, the lion usually feeds on deer, antelope, wild pigs, cattle, horses, donkeys and camels. In Africa, they prey upon antelopes, zebras, quaggas, buffaloes and giraffes.

Were a zebra, a fat rhinoceros and a fat buffalo to be killed and left out it is probable that they would be eaten in the order I have named. Soft succulent fat is what the lion probably considers most toothsome, and zebras supply this in a higher degree than any other animal, save the rhinoceros and the hippopotamus, neither of which it is able to kill; but on the other hand, the zebra confines itself to the open, as far as possible, never approaches within springing distance of a thicket, and rarely, unless when going to water, gives the lion a chance. Buffaloes, on the other hand, are nearly always



LION CUBS THAT LOOK LIKE LAMBS.

in and close to cover, presenting continual opportunities for a successful stalk; and though the danger in attacking them is much greater, as is proved by the no means rare instances of lions being maimed, and even killed in such contests, yet for the above reason they form their chief food.

It must not, however, be supposed that lions by any means restrict themselves to the flesh of animals which have fallen to their own attacks. In addition to eating the flesh of animals recently killed by hunters, lions will also prey upon carcasses in an advanced state of decomposition. When elephants have been shot, lions will prey upon the carcasses as they lie festering

in the rays of a tropical sun, returning night after night to the feast, until no more meat is left. This occurs in parts of the country abounding in game, where it would give a party of lions but little trouble or exertion to catch a zebra, buffalo, or antelope, and procure themselves a meal of fresh meat. In the same way, no matter how plentiful game may be, lions will almost invariably feast upon any dead animal left by the hunter, from a buffalo to a steinbuck, that they may happen to come across.

Near villages, when lions grow too old to be able to take game for themselves, they will take to killing goats; while women or children who happen to come in their way at night also become victims. On the other hand, when far away from human habitations, such decrepit lions catch mice and other small rodents, and will even at times eat grass, although this may be taken medicinally.

That such lions, which have become too feeble to prey upon game, would naturally develop into "man-eaters" if they were permitted to live, appears highly probable. The absence of man-eating lions in parts of Africa is due to the superior boldness of the African natives over those of India, for even among the least martial tribes of South Africa, if two or three people are killed by a lion, the population of the surrounding country is roused, and, a party being formed, the lion is usually surrounded and stabbed to death with assegais; while among such warlike tribes as the Matabele, if a lion only kills an ox, or even a goat, its fate is usually sealed, or even if not killed, it gets such a scare that it is glad to quit the district. Such a thing as a man-eater, or even an habitual cattle-slayer, would never be tolerated for an instant.

My shooting experiences in eastern South Africa, in the districts of Zululand, Tongaland, and Swaziland, show that man-eating lions are to be met with in some regions. I became an accessory to the death of two such man-eaters, one of which had well-nigh depopulated a district, having killed between thirty and forty individuals; while the second, although dwelling in an uninhabited country full of game, had become notorious for its attacks upon the camps of the hunters. The former, indeed, appeared to be an animal in the full enjoyment of bodily strength, as it is said to have habitually leaped over the high fences which surround the Zulu villages.

With regard to the method in which lions kill and carry off the larger animals upon which they prey, it may be observed, in the first place, that there is some doubt whether death is effected by dislocating the neck of the victim, as is always done by tigers. In a cow killed by a lion in Abyssinia the vertebræ of the neck were not dislocated; and I saw a lioness hold a

camel for several minutes without attempting to break its neck. I have seen a horse, a young elephant and two antelopes killed by a bite in the throat; while I have also known instances of horses and zebras being killed by a bite on the back of the neck behind the head. Buffaloes are sometimes killed by a dislocation of the neck, which is effected by the lion springing onto their shoulders, and then seizing their noses with one paw, giving the neck a sudden wrench.

It was formerly a prevalent notion that lions were in the habit of carrying



A PLAYFUL OLD LION.

off the carcasses of large animals, like oxen and buffaloes, by throwing them over their back and walking bodily away with them. All recent observers are, however, agreed that this is by no means a correct statement, and that their invariable practice is to transport such carcasses by dragging them along the ground. A South African lion would be quite incapable of lifting a buffalo from the ground, much less of leaping over a fence with it, as the lion of North Africa has been alleged to do. In referring to an instance of

this nature when a North African lion was reported to have leaped over the thorn fence which formed a protection to a camp, and, after seizing a full-grown ox, bounded back with its victim, Sir Samuel Baker writes as follows: "In the confusion of a night attack the scare is stupendous, and no person would be able to declare that he actually saw the lion jump the fence with the bullock in its grip. It might appear to do this, but the ox would struggle violently, and in this struggle it would most probably burst through the fence, and subsequently be dragged away by the lion. * * * It is quite a mistake to suppose that a lion can carry a full-grown ox; it will partially lift the fore-quarter, and drag the carcass along the ground."

It is stated that the usual pace of a lion when undisturbed is a walk, but even then, from the length of his stride, he gets over the ground quicker than appears to be the case. When going more rapidly I have never seen a lion bound, but they come along at a clumsy gallop, somewhat after the manner of a dog, getting over the ground very quickly.

In regard to the ferocity or otherwise of the lion's disposition, very conflicting statements will be found in the writings of different observers. Thus, whereas Livingstone states that nothing would lead him to attribute to the lion either the ferocious or noble character ascribed to it by others, Sir Samuel Baker is disposed to take a rather opposite view, observing that, although he does not consider the lion to be either so formidable or so ferocious as the tiger, yet there is no reason for despising an animal which has been respected from the most remote antiquity.

All writers appear, however, to be agreed that, as a general rule (although there are exceptions), a lion will not go out of his way to make an unprovoked attack upon human beings, and that, in point of fact, he will rather shun a conflict when possible. "There is nearly always," writes Mr. Drummond, "some explanation of its behavior when it acts otherwise; either the hunter has approached so near before being discovered that the animal is afraid to turn tail, and, urged by its very fears, makes a charge; or it may be half-famished, and having got hold of some prey, either of your killing or its own, will not quit it without a contest; or, if a lioness with cubs, will fight in defense of their supposed danger." Sir Samuel Baker's testimony is of a very similar character, when he mentions that the expert swordsmen of Central Africa have no dread of the lion when undisturbed by sportsmen, although they hold him in the highest respect when he becomes the object of chase. Again, in another passage, the same writer mentions that among the Hamran Arabs of the Sudan the lions, although numerous, are never regarded as dangerous.

That lions, especially when hungry, will, however, on occasion attack human beings,—on foot or when mounted,—there is abundant evidence. A hunter engaged in stalking a rhinosceros, on looking back was horrified to find that he himself was being stalked by a lion. There was but one time in my career when a lion, driven by hunger, attacked me personally; but I believe that there are some lions which will always make unprovoked attacks. This view is supported by an account of an attack made upon three natives in Eastern Africa. The three natives in question were passing along the edge of a certain lagoon, when, without further warning than a slight rustle, a lion



THE KING OF BEASTS DRINKING AT A POOL.

sprang upon the foremost, crushing him to the ground. His terrified comrades, throwing away the chance of shooting the brute while it was still upon its first victim and its eyes probably closed, rushed to the nearest trees for safety, but, once there, feeling ashamed of their cowardly desertion of an old companion, they descended, and walking forward together were just on the point of firing, when, with a roar that almost deprived them of the power to run, the lion charged, caught the hindmost, and after shaking him for a

second or two, gave chase to the other, who, however, had profited by the time to remove himself, by a bare foot or so, out of reach of the spring the enraged animal gave as it saw that one had so far escaped. It then returned to its last victim, not yet dead, took him up in its mouth, dropped him, tossed him from paw to paw as a cat does a mouse, and at last, as if wearied by so much unaccustomed gentleness, it allowed its savage nature to gain the mastery, and with one crunch of its powerful jaw put him out of his pain." The sole survivor of this tragedy, after having been besieged for hours in a tree, during which



SIR EDWIN LANDSEER'S WORLD FAMOUS PAINTING OF A LION.

he had a hairbreadth escape when descending to reach his gun, finally had the satisfaction of putting a bullet through the ribs of the lion.

Lion-hunting, under any circumstances, must of necessity be a dangerous pursuit; but it may be followed to a certain extent with comparative immunity from harm by those who have the necessary nerve and coolness, coupled with sufficient knowledge of the habits of the animals. I consider the lion a far more dangerous animal to encounter than any other creature in South Africa. It is true, indeed, that a much greater number of casualties occur from buffalo-shooting than in lion-hunting, but for every lion that has of late years

been "bagged" in the interior of South Africa, at least fifty buffaloes have been laid low. As a general rule the danger is reduced to a minimum when hunting with dogs, as the lion's attention is generally concentrated on his canine foes; but even then it sometimes happens that he will dash straight through them to attack the hunter. A mounted hunter, except when the movements of his horse are impeded by thick forest or by yielding sand, can generally escape when pursued, as the pace of the average lion is not sufficient to enable him to overtake the average horse. If, however, on foot, and without dogs, though there is little danger in attacking lions in the first instance, yet to follow up



A PERFECT SPECIMEN OF A FULL-GROWN LION.

a wounded one is very ticklish work, especially in long grass or thick cover, for there is probably no animal of its size in the world that can conceal itself behind so slight a screen, or rush upon its pursuer with such lightning-like rapidity.

It should always be recollected, before meddling with lions, that if you do come to close quarters with them, death is the probable result. There are cases within my own knowledge where, single-handed and armed only with a spear, a native has succeeded in killing one that has sprung upon him, without receiving in return anything but trifling injuries; but these are only excep-

tions that prove the rule that when they strike they kill. * * * It is a grand sight to see one charge a native regiment sent out after it, as they sometimes are, springing over the heads of the first line right into the center, flying about, knocking men down with every blow, until, a complete sieve of assegai wounds, it dies fighting.

The lion tries to avoid man until wounded, and it is only in exceptional cases of there being young ones to guard, or from astonishment at seeing the hunter so close to them, that they charge when being tracked. They charge with the same coughing roar that a tiger does, and come at great speed close to the ground, not bounding in the air as they are represented in pictures. Their ears are pressed close to the head, giving them the comical appearance of being without ears. So large an animal coming at full speed against you of course knocks you off your legs. The claws and teeth entering the flesh do not hurt so much as you would think. The only really painful part of the business is the squeeze given by the jaws on the bone. I felt none of the dreamy stupor Livingstone describes, but, on the contrary, felt as usual. I adopted the course of lying quite still, which, I believe, is the best thing one can do, as you are quite helpless with a heavy animal on you, and they are inclined to make grabs at everything that moves, and the fewer bites you can get off with the better.

Twice in my life I have escaped death by the ruse of feigning death when in the power of a lion, but I know of no other situation in which a man can be placed which requires as much nerve and control of the muscles. Imagine a great brute nosing and sniffing every part of your body from your head to feet; imagine feeling its hot breath or the saliva from its dripping jaws upon your face, while you know that to stir or give any sign of life means instant death, and you will have some idea how a hunter feels when at the mercy of the king of beasts.



THE STORY OF THE MOUNTAIN LION.

Many a young hunter in the Rocky Mountains has been startled out of a sound sleep by a wild, unearthly cry unlike any other sound of the forest.

"What's that?" he would ask, listening to catch a repetition of the sound.

"Go to sleep," replies the old hunter, who is his companion; "that's only a painter,—what most people call a mountain lion. They won't bother us; go to sleep."

The mountain lion is the largest representative of the cat family in America. It is often called the panther, a word the old-time hunters corrupted into painter. Some works on natural history give it the name of cougar, but I prefer the name given it by the Peruvians—Puma, which has been adopted by all American zoologists.

In regard to the dimensions of the puma, it is stated that a male preserved in the museum at Washington has a total length (measured along the curves of the body) of 6 feet $7\frac{1}{2}$ inches, of which 2 feet $2\frac{1}{2}$ inches are occupied by the tail. A large male killed in Arizona measured 7 feet in total length, of which 3 feet was occupied by the tail; while a smaller male from the same locality had a total length of only 6 feet, of which the tail took up 1 foot 11 inches. The largest individual of which the measurements can be regarded as authen-

ticated was one killed in Texas in the year 1846, of which the total length was 8 feet 2 inches, the length of the tail being 3 feet 1 inch. A stuffed specimen measures 9 feet 1 inch in total length. I believe that the length may in some instances be as much as 11 feet.

In the parts of South America where cattle and horses are largely bred the puma is a terrible scourge. Indeed, so partial is it to horse-flesh, that in



MOUNTAIN LION, TREED.

some parts of Patagonia it is almost impossible to breed horses owing to the destruction of their colts. An instance is related of a puma springing on a colt among a drove in charge of a driver, and killing it so suddenly by dislocation of the neck that the unfortunate animal was actually dead before it fell to the ground. It further appears that in districts where pumas abound the semi-wild horses of South America can scarcely maintain their existence, owing to the slaughter of their colts. The puma does not, however, confine its ravages

on horses to the colts, but will also attack and kill full-grown adults. The same is true for cattle, among which calves more generally, and cows rarely, fall victims to the puma's rapacity. Horned cattle are, however, less preferred than sheep, which, next to horse-flesh, forms its favorite food in pastoral districts. Indeed, so partial are pumas to mutton, that one has been known to make use of a calf-pen as a place of concealment from which to raid on a sheep-fold, passing through the former without offering to molest its tenants.



A PERFECT SPECIMEN OF MOUNTAIN LION.

The acme of daring on the part of the South American puma is, however, reached in the attacks which it makes upon the jaguar; and it appears that in North America the puma exhibits an equally marked hostility to the grizzly bear. In these respects the puma is undoubtedly entitled to be regarded as one of the boldest and fiercest of carnivores in proportion to its size.

I once, and once only, killed a puma, and nothing will induce me to kill another. On the occasion referred to a puma was found, which sat perfectly still with its back against a stone, not even moving when lassoed. I dis-

mounted, and drawing my knife, advanced to kill it; still the puma made no attempt to free itself from the lasso, but it seemed to know what was coming, for it began to tremble, the tears ran from its eyes, and it whined in the most pitiful manner. I killed it as it sat there unresisting before me; but, after accomplishing the deed, felt that I had committed a murder. If this were an isolated case, it would not be of much importance, but scores of instances attest that this strange and inexplicable behavior is characteristic of the South American puma, and that it almost invariably resigns itself to death in this unresisting manner. Very different is, however, the behavior of the puma when attacked by a hunter accompanied by dogs. At such times, the animal is roused to the fiercest paroxysms of rage; and with hair erect and eyes flashing like balls of lurid fire, it rushes spitting and snarling on the dogs, utterly regardless of the presence of the hunter. So thoroughly indeed is the hunter ignored on such occasions, that he may actually belabor the puma on the head with a cudgel without drawing its attack upon himself; the animal receiving such blows without retaliation, and calmly waiting its opportunity of making a rush upon the dogs.

Strange as it may at first sight appear, the pumas of the Adirondacks were wont to prey largely upon the porcupines which are found in abundance in that wilderness, and individuals were frequently killed with their mouths and lips, and sometimes other portions of their bodies, absolutely bristling with the quills of porcupines. Whether, however, these animals were selected as an article of food from choice, or whether the pumas were driven to devour them from inability to capture other prey, is uncertain. Be this as it may, porcupines are creatures which, from their sluggish habits and contempt of ordinary foes, may be easily captured, and would be sure to come in the way of the puma during its nocturnal wanderings. The North American puma will eat almost anything, from deer down to rats, mice, fish and even snails.

THE AFRICAN BUFFALO

The Delights of the Buffalo Hunt as Experienced by Mr. Roosevelt and Other Sportsmen—His First Encounter with This Ferocious Animal—The Story of the Buffalo.

Mr. Roosevelt found the African buffalo to be a much more cunning and dangerous animal than his Rocky Mountain namesake, with whom he formed acquaintance during the early years of his life as a ranchman and hunter in the great American West. When pursued the African buffalo



From photograph.

BUFFALO HUNTERS IN EAST AFRICA.

would run away at a considerable distance and hide behind some huge trunk to suddenly spring on the approaching unsuspecting hunter, whose only salvation lies in a sure aim and cool presence of mind.

The above illustration represents a company of officials and famous hunters in the Kilimanjaro district, through which Roosevelt passed by the Uganda Railroad, on his way from Mombasa to Kapiti Plains. In the foreground

there are two splendid heads of wild buffalo, which have just been killed in the regions around Africa's highest mountain peak.

Next to the lion the buffalo is the most dangerous African game. During the last fifty years hundreds of hunters have lost their lives in its pursuit and dozens are annually mauled to death under its powerful horns.

The full-grown male African buffaloes, which Mr. Roosevelt hunted, stood five feet eight inches high at the shoulders and were up to twelve feet in length. Unlike the American bison, they are hunchless and straight backed, have short and small heads and a square muzzle, shaped like that of our ox. Our ex-President found them to be the most cunning and cautious of all African wild beasts. They live in large herds and thrive excellently all over British East Africa. Their charge is so violent as to carry everything before them. An enraged buffalo goes through the densest jungle like an automobile and nothing can check his furious onslaught. The safest way, therefore, is to kill him before he has time to charge. In fact, two of the first four buffaloes Mr. Roosevelt bagged had no time to charge at all, and the other two were speedily dispatched just as they were about to start.

Some years ago the buffalo was on the list of protected animals, but this resulted in its becoming so numerous as to be a veritable pest, destroying the crops of the farmers and even threatening the lives of the natives. It now is counted as vermin and may be killed at will. There is no danger, however, of its being exterminated, for the British Government has created an extensive game reserve on both sides of the Uganda Railroad, where thousands of wild buffaloes are allowed to thrive unmolested, and from where the surrounding country is constantly supplied with fresh stock.

The first buffalo shot by Colonel Roosevelt in East Africa was of the typical African species, about six feet high at the shoulders, having upward curving horns with a spread of seven feet, and bluish-black coat.

His achievements as a hunter have been record-breaking, for his first three months' efforts yielded forty-two big head of game, among which were five large buffaloes, and last fall the bag tallied 104 animals, of which sixty-nine fell before the unerring aim of the father's rifle and thirty-five at the crack of the son's weapon. Still he does not kill more than he has to, his aim being to supply our National Museum with valuable specimens and not to satisfy a personal desire for exciting adventures.

"I regret very much the criticism and claim of wanton slaughter of animals, which I have heard has come from America," he said to an American newspaper man who recently returned from East Africa, "because I have

only been killing one specimen and no more, except in the case of the lions, a pest to humanity. In the case of the lions I have received the heartiest thanks of the people of the neighborhood in which I have killed the beasts.

"I am not a good shot," the famous hunter said to the correspondent, with characteristic modesty, "but I shoot often."

The same statement was also made to the two experienced hunters, Selous



A VISIT FOR THE EXCHANGE OF PRESENTS.

and Cunninghame, who accompany the safari, and both met it with the most emphatic contradiction. Mr. Roosevelt's marvelous game record also shows that his hits are much more frequent than his misses.

The people of the land, natives as well as European settlers, were amazed at the energy of the former President. The individual members of the caravan were often marched to death and anxious to quit. They therefore em-

braced every opportunity to halt and take some rest. Such an occasion was the visit the chief of the war-like Wakamba tribe, accompanied by his warriors, made to the camp. These savages still adhere to their primitive custom of bringing presents to visitors, expecting, of course, more valuable ones in return. The Wakamba is the only native tribe that has succeeded in maintaining its independence against their neighbors, the ferocious Masai people, whose territory extends to the Mt. Kenia region, only two days' march from the beautiful Juja farm, where Mr. Roosevelt was so hospitably entertained by his American friend, Mr. McMillan and his family. Our illustration shows a company of Masai camping at the foot of the mountain. These war-like savages subsist only upon milk and blood of their herds of cattle. When a caravan is on safari in the neighborhood the Masai women will come down at sunrise to fetch fresh milk for the camp and sing to the whole power of their beings the same sort of a good-wish song, for all which presents are usually expected.

While the name by which the animal is generally known is buffalo, the correct name is bison, but the name buffalo has been in vogue for so long that it will no doubt continue to be used, while there are any of the animals left.

We now proceed to give our readers some further interesting details as to the habits and nature of the buffalo.

Of all the quadrupeds that have ever lived upon the earth, probably no other species has ever marshaled such innumerable hosts as those of the American buffalo. It would have been as easy to count or to estimate the number of leaves in a forest as to calculate the number of buffalo living at any given time during the history of the species previous to 1870. Even in South Central Africa, which has been exceedingly prolific in great herds of game, it is probable that all its quadrupeds taken together on an equal area would never have more than equaled the total number of buffalo in this country forty years ago. As an instance of these enormous numbers, it appears that, in the early part of the year 1871, Col. Dodge, when passing through the great herd on the Arkansas, and reckoning that there were some fifteen or twenty individuals to the acre, states from his own observation that it was not less than twenty-five miles wide and fifty miles deep. This, however, was the last of the great herds, and the number of individuals comprising it could not be reckoned at less than four millions. Many writers at and about the date mentioned speak of the plains being absolutely black with buffalo as far as the eye could reach. One man passed through a herd for a distance of upwards of one hundred and twenty miles right on end, in traveling on the Kansas Pacific railroad. Fre-

quently, indeed, trains on that line were derailed in attempting to pass through herds of buffalo, until the engineers learned it was advisable to bring their engines to a standstill when they found the line blocked in this manner.

When I was on the Arkansas river in 1867 the whole country appeared one great mass of buffalo moving slowly to the northward; and it was only when actually among them that it could be ascertained that the apparently solid mass was an agglomeration of numerous small herds, of from fifty to two hundred animals, separated from the surrounding herds by greater or less space, but still



A FAMILY OF AMERICAN BUFFALO OR BISON.

separated. The buffalo on the hills, seeing an unusual object in their rear, started at full speed directly towards me, stampeding and bringing with them the numberless herds through which they passed, and pouring down upon all the herds, no longer separated, but one immense compact mass of plunging animals.

In their periodical journeys across the country in search of water regular tracks were formed by the buffalo, and as the water was approached several

tracks united, with the result that in some places tracks of about twelve inches in width, and from a foot to two feet in depth, may be seen following the level of the valleys; the buffalo in these journeys having always marched in single file. These old buffalo-tracks still remain as a memento of a vanished race, and are now used by the domestic cattle which have supplanted the monarchs of the prairie. After reaching the watering-place, the herd, instead of returning to its original feeding-ground, would wander right and left in search of fresh pastures. When undisturbed in good pasture, buffalo were always in the habit of lying down for a few hours during the middle of the day; and they were at certain seasons fond of rolling either in dust or mud. In districts where salt lakes occurred, the buffalo would resort to them in great numbers. All the great herds were in the habit of moving southwards for a distance of from two hundred to four hundred miles with the approach of winter; and during such journeys it frequently happened that numbers were lost in crossing quick-sands, alkali-bogs, muddy fords, or on treacherous ice. It is stated that in 1867 upwards of two thousand buffalo out of a herd of four thousand were lost in a quicksand; and that an entire herd of about one hundred head perished when crossing the ice on a lake in Minnesota.

I have seen buffalo boldly face the cutting blizzards of the Northwest, instead of turning tail to them after the manner of domestic cattle; although they would at the same time seek such shelter as might be obtainable by retiring to the ravines and valleys. In heavy falls of snow, which lay long on the ground, the buffalo were often compelled to fast for days, or even weeks, together; but they suffered most when the surface of the snow was covered with a thin crust of ice after a slight thaw, as their ponderous weight would drive their feet deep into the snow, and leave them at the mercy of the Indians, by whom they were slain by hundreds when thus helpless.

The method of stalking, or "still-hunting," where the hunter creeps up to a herd and shoots one after another of its members, appears to be one the most deadly modes of hunting the buffalo, owing to the crass stupidity of the animals themselves. The plan adopted was first to shoot the leader, when the remainder of the herd would come and stupidly smell round the body, till another animal assumed the post of leader, and was shot down when it was about to make a move; the same process being repeated almost without end. Riding down, surrounding, impounding, or hunting in snow-shoes were, however, other equally effective methods of destruction.

In captivity the American buffalo breeds freely, not only with its own kind, but also with other species of cattle. In the United States a herd has been

established by crossing bull buffalo with domestic cows; the buffalo cow not producing a hybrid offspring. This hybrid race is perfectly fertile, either with itself or when again crossed with domestic cattle; and it is considered that a strain of buffalo-blood will lead to the cattle in the Northwestern states being better enabled to withstand the blizzards of those districts.

In general the buffalo has no reason to fear any of the other animals that frequent the regions it inhabits, for if an individual should be attacked, the



AMERICAN BUFFALOES, SHOWING METHODS OF HUNTING THEM.

bulls rally to its assistance, and compel the assailant to flee before the blows which they inflict with their armed heads. It is only when wounded by the Indian's arrow, or by the bullet of the white man's rifle, or else from becoming sick from any cause, that this great beast falls a victim to its four-footed enemies. The cunning white wolf is the one it has most to dread; for these stealthy, thick-coated Arabs of the prairies soon ascertain when a buffalo is in

feeble condition, and, banding together, easily pull it to the ground and tear it to pieces. But the buffalo does not succumb to its foes without an effort to preserve its fast-ebbing life. Bold and gallant to the last, staggering to his sole remaining spot of vantage ground, the feeble knees bending beneath the weight of the mighty body—weak with loss of blood, yet still unconquered—the noble bull tosses his fierce-looking head and bids defiance to his lurking foes. With eager, bloodshot eyes, and the keen white fangs glistening in their powerful jaws, the wolves set on him from every side. By sudden springs they seize and tear his flesh with their sharp teeth, darting away too quickly to be injured by horn or hoof. Vain are his efforts to reach the nimble assailants, until, summoning all his remaining strength, he rushes upon one that, more daring than the rest, attacks him in front, and even in the act of trampling him down, falls upon the body of his prostrate foe, too feeble to carry out the unequal combat. Never will he rise again, for instantly the angry wolves fairly swarm upon him, and soon nothing will be left to tell of the mighty buffalo but a well picked skeleton whitening in the summer sun.

Mounted on a swift horse, and armed with a spear and bow and arrows, the Indians killed great numbers of these animals. They rode up close to the buffalo, and with the greatest apparent ease buried an arrow up to its feather in the creature's body. Indeed many instances are known where the slight Indian bow, drawn without any perceptible effort, has thrown the arrow completely through the body of the huge animal. Many modes of destroying this animal were in vogue among the Indians and white settlers. The skin was so valuable that every exertion was made to procure it. Of the buffalo's hide they made their wigwams or tents, their shields, their robes, their shoes, etc. The Indians could also sell the hides to the traders for a considerable sum, so that an Indian would almost measure his importance and wealth by the number of hides that he took.

Their ferocity of appearance was not evident in the buffaloes' true nature, for their disposition was sluggish and fearful. Endowed with the smallest possible amount of instinct, the little the buffalo has seems adapted rather for getting him into difficulties than out of them. If not alarmed at the sight or smell of a foe, he will stand stupidly gazing at his companions in their death-throes, until the whole herd is shot down. He will walk unconsciously in a quicksand or quagmire already choked with struggling, dying victims. Having made up his mind to go a certain way, it is almost impossible to swerve him from his purpose.

The flesh of the buffalo is tolerable eating, but the "hump" is unapproach-

able in delicacy. It is exceedingly tender, and possesses the property of not cloying even when eaten in excess. The fat is devoid of that sickening richness which is usually met with in our domesticated animals.

The cow is smaller than the bull, and considerably swifter. She is also generally in better condition and fatter than her mate, and in consequence the hunters who went to "get meat" always selected the cows from the herd.

The principal use of the flesh of the buffalo was to make "jerked meat" of it. This is made by cutting the meat into long, narrow slips, and drying



EUROPEAN BUFFALOES FIGHTING.

them in the sun. There is a peculiar art in cutting these slips. The operator takes a large lump of the flesh, and holding his knife firmly in one hand, presses the meat against its edge with the other, continually turning it round and round, until the whole piece is converted into one long strip. The strips thus prepared are pegged out on stakes, as washerwomen peg their clothes, or suspended in festoons on the branches of trees, like red snakes, until they are dry enough to be packed up. Three days is considered sufficient for the purpose. The cow is preferred to the bull for conversion into jerked meat, while the

skin of the bull is more valuable than that of the cow, from the mass of woolly hair about the shoulders.

THE INDIAN BUFFALO.

The Indian buffalo has been domesticated and is extensively employed as a beast of burden by the Hindoos. It has also been introduced into several of the adjoining countries. The animal is about the size of a full-grown ox and is harnessed and driven in a manner similar to that our forefathers used with the ox. This species has enormous curved horns, some measuring 12 and 14 feet from tip to tip.

In a wild state the Indian buffalo is only known in the country from which it takes its name, the herds which are found in a wild state in Burma and the Malay Peninsula and adjacent islands being not improbably descended from animals escaped from captivity.

In India wild buffaloes are found on the plains of the Bramaputra and Ganges, from the eastern end of Assam to Tirhut; they also occur in the "terai" land at the foot of the Himalaya. Domesticated buffaloes are found not only over the whole of India and Burma, and the greater part of the Malayan region, but have likewise been introduced into Asia Minor, Egypt and Italy.

The haunts of the wild Indian buffalo are the tall grass-jungles found in many parts of the plains of India, and generally in the neighborhood of swamps; but it may be also found more rarely in the open plains of short grass, or among low jungle, and occasionally even in forest. Those who have never had the opportunity of seeing an Indian grass-jungle can have but little conception of its height and density, but some idea may be formed of it from the fact that in such cover, although a herd of buffaloes may be roused within a score of yards, the waving of the grass, and perhaps the glint of a polished horn-tip, is the only ocular evidence of the presence of the animals; the probably nearly noiseless rush might be caused by other animals; and where the horns have not been seen it is only by the strong, sweet bovine scent—similar to but much more powerful than that of cows—that one can be absolutely certain of what is in front of one. In such jungles shooting on foot is out of the question, and the only method of procedure is by beating with a line of elephants.

In their wild state these buffaloes are always found in herds, which may comprise fifty or more individuals. They feed chiefly on grass, in the evening, at night, and in the morning; and lie down, generally in high grass, not

unfrequently in a marsh, during the day; they are by no means shy, nor do they appear to shun the neighborhood of man, and they commit great havoc among growing crops. Sometimes a herd or a solitary bull will take possession of a field and keep off the men who own it. A bull not unfrequently attacks without provocation, though (probably on the principle that a council

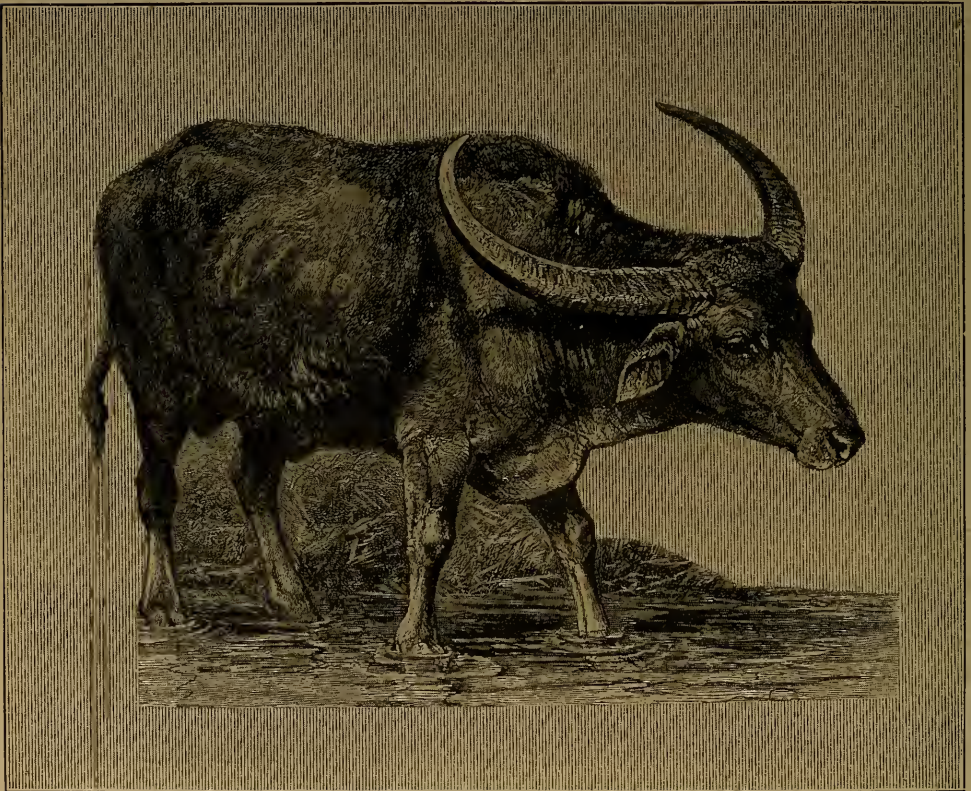


THE ARNEE BUFFALO OF ASSAM.

of war never fights) a herd, although all will gallop to within a short distance of an intruder and make most formidable demonstrations, never, I believe, attacks any one who does not run away from them. A wounded animal of either sex often charges, and has occasionally been known to knock an elephant down. Buffaloes retain their courage in captivity, and a herd will

attack a tiger or other dangerous animal without hesitation, and, although gentle with those they know and greatly attached to them, they are inclined to be hostile to strange men and strange animals.

In earlier times the buffalo was common throughout Europe, but the advance of civilization there as in this country later drove the animal back, until the present time it is restricted to a few of the most inaccessible mountain regions.



COMMON INDIAN BUFFALO.

The buffalo now living in Lithuania are specially protected by the Russian Government and are under the charge of a staff of keepers, but those of the Caucasus are thoroughly wild. Although living at a greater altitude, and thus exposed to a more intense cold, the buffalo of the Caucasus are less thickly haired than are those of Lithuania. Buffalo were abundant in the Black Forest in the time of Julius Cæsar, and as late as the ninth and tenth

centuries were sufficiently numerous in parts of Switzerland and Germany to be used as food. In a recent summary of the history of the species I found that up to 1500 the European buffalo seems to have been common in Poland, where it was looked upon as royal game, and hunted in right royal manner by the king and nobility, as many as two thousand or three thousand beaters being employed to drive the game.



CAPE BUFFALOES.

In spite of their size and bulk, the European buffalo are active animals, and can both trot and gallop with considerable speed. In galloping the head is carried close to the ground and the tail high in the air. Generally they are sly and retiring in disposition, but in Lithuania an old bull has been known to take possession of a road and challenge all comers. The female dis-

plays great courage in defending its offspring against bears and wolves, and cows often sacrifice their lives in behalf of their calves.

THE CAPE BUFFALO.

The Cape buffalo is a native of South Africa. It is exceedingly ferocious and cunning, often lurking among the trees until an unsuspecting traveler approaches, and then rushing on him and destroying him. The ferocious creature is not content with killing its victim, but stands over him mangling him with its horns, and stamping on him with its feet.

The Cape buffalo has but two enemies—the lion and man; and the combined assaults of these two have in some districts so reduced its numbers that as far back as 1875, where there were formerly herds of from ten to one hundred in number, not ten head are to be found. A combat between three lions and a bull buffalo was once witnessed by me. After a game fight the buffalo was vanquished. The bulls frequently engage in fights between themselves. I had the good fortune to witness one of these. On looking through the edge of a thicket which concealed them I saw two buffalo bulls standing facing each other with lowered heads, and, as I sat down to watch, they rushed together with all their force, producing a loud crash. Once their horns were interlocked, they kept them so, their straining quarters telling that each was doing his best to force the other backwards. Several long white marks on their necks showed where they had received scratches, and blood dripping down the withers of the one next me proved that he had received a more severe wound. It was a magnificent sight to see the enormous animals, every muscle at its fullest tension, striving for the mastery. Soon one, a very large and old bull, began to yield a little, going backwards step by step, but at last, as if determined to conquer or die, it dropped on its knees. The other, disengaging his horns for a second, so as to gain an impetus, again rushed at him, but did not strike him on the forehead, but on the neck, under the hump, and I could see that with a twist of his horns he inflicted a severe wound. Instead, however, of following up his advantage, this one withdrew and gave up the battle. Had he pressed his advantage he would eventually have won.



THE STORY OF THE FOSSA.

The fossa of Madagascar, which is the largest flesh-eating animal found in that island, is the species connecting the more typical members of the cat family. This peculiar animal differs, indeed, so remarkably from all the other representatives of the tribe, that it has been considered by some that it ought to be referred to a separate family.

The fossa is a nearly uniformly-colored animal, with short and thick pale brown fur; and it attains a total length of about five feet from the snout to the tip of the tail, the length of the tail being more than three-quarters that of the head and body. The curved claws are sharp and retractile; and the feet, each of which is furnished with five claws, are very similar to those of a cat, except that the whole sole of the hind pair is naked, and applied to the ground in walking.

It is a purely nocturnal creature, of a fierce disposition, but scarcely anything is yet known of its habits.

The fossa is undoubtedly one of the most interesting beasts of prey, if not one of the most interesting of animal creatures in general. Any scientist who disputes the fact that intermediate forms, which play such an important part in natural history in its newest aspect, really exist, must keep silence when he beholds this animal. The fossa cannot be determined nor comprehended in any other way but as an intermediate or transitional form—as a link connecting the real cats with kindred animals. These animals existed

in a less perfect state at an earlier period of the earth's development, and are called stealthy cats, including the palm-civets, civets, genets and mungoses. Should the body of a large, reddish-brown palm-civet be imbued with the lively, sportive nature, the intense elasticity and supple mobility of a true



THE FOSSA

cat, this unique animal would present in itself the combination of these contradictory features. The feet, which are furnished with curved, sharp, and somewhat retractable claws, are very similar to those of a cat, except that the whole sole of the hind pair is knotted, and applied to the ground in walk-

ing. The picture, unfortunately, does not convey a correct idea of the disposition of the animal, the splendid, serpent-like, wavy motions of its body, which is of a light brown color tinged with red and gray. The muscular structure, however, shows a powerful, compact build. The limbs, though small, are well knit. The ears are large and rounded, while the tail measures more than three-fourths of the length of the head and body. The fossa has a total of thirty-six teeth, of which the hinder ones, both in form and number, closely resemble those of the cat.

It is because the fossa is the largest of the flesh-eating animals of Madagascar that the lemurs flourish in that island. The fossa undoubtedly kills many of the smaller lemurs, but owing to the agility of those monkey-like little animals, it is difficult for even such an active, agile animal as the fossa to catch them—hence many escape because the fossa turns its attention to the pursuit of still smaller and easier prey.

HUNTING THE ELEPHANT

Elephant Charges ex-President—His Narrow Escape from Death—Dangers and Excitement of the Elephant Hunt—The Story of the Elephant.

The most glorious hour in Mr. Roosevelt's experience as an African sportsman was that in which he bagged his first elephant. When the hunter succeeds in bringing the animal down at close range, in a thicket, his heart beats with delight—it is just a chance what his fate may be. However, widely experienced travelers differ in their views in regard to African sport in



AN IVORY AND PALM OIL CARAVAN.

general. They are all agreed that elephant hunting is the most dangerous task to which a man can set himself. Sooner or later the luck goes against the hunter. Of recent years a large number of good shots have lost their lives in Africa. If one of these huge animals once gets at the hunter, he is as good as dead. Mr. Roosevelt, too, narrowly escaped death when shooting his first bull elephant.

Accompanied by his son Kermit, Edward Heller, R. J. Cunninghame and Mr. Selous, he left Nairobi in the early days of August for Nyeri, with the intention of getting a bull, cow or calf elephant for the National Museum.

Although better elephants are obtainable in the Nile country of the Uganda, and its immediate neighborhood, Colonel Roosevelt was anxious to get an elephant in the Kenia district, so that Professor Heller, the taxidermist, could have a better chance in the cooler climate there of saving the skin in good condition for the Smithsonian Institution.

Elephant hunting is no child's play, for in shooting the huge animals it is necessary often to creep up to within some twenty feet of the herd, or even nearer, and shoot the selected bull at a range of fifteen to thirty yards, and, of course, if they get the wind or hear the hunter, the chances of his escape are small. There is something fascinating about an elephant hunt, for the chances are about even for the hunter and the hunted. Mr. Roosevelt followed this plan and found it worked so well that towards the end of November he had already bagged nine elephants.

The party were one day pursuing a lion into a jungle, Colonel Roosevelt marching at the head, closely followed by Mr. Selous, while Kermit was bringing up the rear, when they suddenly struck upon an elephant herd. Stamping with their mighty feet, the gigantic animals had smashed some young tree trunks and had shorn them of their twigs and branches, and with their trunks and tusks had torn the bark of larger trees in long strips or slices and consumed them. A big bull had just torn some long sword-shaped hemp stalks out of the ground, and after chewing them dropped the fibers, gleaming white, where they lay in the sun. The sap of this plant is food as well as drink to them. At one point some of the elephants had gathered together under an acacia tree and were breaking and devouring all its lower branches and twigs.

The ex-President instantly aimed at the head of the herd and would have fired had not the old experienced F. C. Selous, the greatest of the world's big game hunters, who has spent nearly forty years hunting in Africa, and killed hundreds of elephants, warned him that to do so would be to challenge the animals to a charge, which would mean sure death to the hunters. Not without difficulty did he succeed in getting the ex-President and Kermit to move back and climb a tree for safety. Hidden among the branches they could see the elephants in the dense jungle. Roosevelt sent a whole load of bullets into the largest bull, ran down from the tree and at a distance of about forty feet finished the gigantic beast with a bullet through its heart.

Before he could reload another bull elephant charged him, at close range. To be charged by an African elephant is as exciting a sensation as a man could wish for. The fierceness of his on-rush passes description. He makes for you suddenly, unexpectedly. The overpowering proportions of the enraged beast—the grotesque aspect of his immense flopping ears, which made his huge head look more formidable than ever—the incredible pace at which he thundered along—all combined with his shrill trumpeting to produce an effect upon the mind of the hunters which they will never shake themselves rid of as long as life lasts.

“When,” says a famous African hunter, “it is a case not of one single elephant, but of an entire herd giving chase in the open plain, the readers will have no difficulty in understanding that even now I sometimes live the whole situation over again in my dreams and that I have more than once awoke from them in a frenzy of terror.”

Fortunately in this case the rest of the herd took to flight through the thicket. Both Mr. Selous and Mr. Roosevelt got behind trees, and the former fired at the charging bull and turned him from the Colonel just in time to save his life.

One of the naturalists connected with the Roosevelt expedition, Mr. Edmund Heller, succeeded in preserving entire and in good condition the skin of the magnificent bull. It was a splendid specimen, its tusks weighing eighty pounds each. One of our illustrations shows how the big animal is skinned. On another page the reader will find a caravan carrying ivory to the coast. The ivory trade is a very profitable business and thousands of natives and Europeans are employed in its service. Ivory is chiefly required to make billiard balls and ornaments. It is, however, getting more and more rare, for during the last hundred years several millions of elephants have been ruthlessly slaughtered, so that this animal is no longer to be found anywhere in its original numbers. It is found most frequently in the desert places between Abyssinia and the Nile and the Galla country, or in the inaccessible parts of the Congo, on the Albert Nyanza, and in the forests of Nigeria and the Gold Coast. But in the vicinity of Victoria Nyanza, where Roosevelt hunted, and where a single elephant hunter some years ago alone slaughtered hundreds, things have changed greatly, and still it is not the white man who does most of this work of destruction. It is the native who obtains the greater part of the ivory used in commerce. Two subjects of a savage chief killed, for instance, a short time back, in the space of a year and a half,

elephants enough to provide one hundred and thirty-nine large tusks for their ruler. Consequently the price of ivory has been rising gradually, and is now ten times what it was some forty years ago, when a fifty-pound tusk could be bought for some stuff worth about fifteen cents.



From photograph.

SKINNING AN ELEPHANT.

After the exciting adventure narrated above, Theodore Roosevelt and his party went on another extended hunt, which proved very successful. On their arrival at Naivasha both the Colonel and Kermit looked tanned and felt well. They were delighted with their expedition and Mr. Roosevelt said both he and Kermit were very proud of having got their elephants, especially proud that each got one when they were unaccompanied by such experienced hunters as Cunninghame and Tarlton. The station was crowded with officials and settlers, wishing to greet Colonel Roosevelt after his long absence, and they gave him a warm welcome.



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NATIVE HUNTERS' CAMP IN THE JUNGLE.

Later the hunting was continued on the Guas Ingisha Plateau, where Colonel Roosevelt and his son Kermit succeeded in killing four elephants for the American Museum of Natural History at New York. Mr. Roosevelt decided to give one of the elephants killed earlier to the museum of the University of California.

The party took many other trophies, including five-horned giraffes, a leopard, a roan bosch bock, a singing tapi, a bohor and a kob.

These valuable specimens were secured in a sportsmanlike way by stalking in the daytime—a method of hunting which involves great danger.

In order to study the ways and habits of the wild animals the members of the expedition often had to undergo the hardships of spending many sleepless nights in the thicket. The numerous insects—ants, for instance—kept them wide-awake, and though they were not always successful the insight into the nightlife of many animals amply repaid them for their trouble. In the stillness of the night, illumined by the bright tropical moonlight we heard the laughing cry of the long-tailed lemurs or they saw a herd of antelopes passing on their way to the drinking place. Now they distinguished through an opening in the jungle a huge mysterious apparition cautiously proceeding towards the river. It is a full-grown rhinoceros. A few jackals are howling in the distance and the tropical birds in the tree-tops utter their peculiar laugh. Here a grayish animal glides past the thicket quick as a lightning and the next moment bull and lion roll on the ground in deadly embrace. Such were the nocturnal scenes which mingled with the weird and strange voices of the wilderness that met Colonel Roosevelt and his companions.

The following facts relating to the elephant will be of interest:

Everybody knows that the elephant is the largest of living animals, that his tusks are ivory and that he has enormous strength. Many other things the reader knows of this big beast, and yet this story is written for the purpose of describing scenes and incidents, in which I took a prominent part, new and novel to you. The years I lived in India and along the upper Nile have made me familiar with the animal and have given me an opportunity to study him in nature's domain. The elephant in captivity undergoes many changes in disposition and act.

The deep and widespread interest in the elephant, which surpasses that accorded any other animal, is not misplaced, since the elephant is without exception the most extraordinary of the brute creation. The name pachyderm is frequently used in describing the elephant, but it is no more applicable than would be a half dozen others. Pachyderm means thick-skinned, and describes one quality of the animal, for the skin of the elephant is thicker and tougher than that of any other of the animals with the exception of the rhinoceros and the hippopotamus.

Much has been written about the size attained by the elephant, but nothing is positively known, for no animal in captivity will attain the growth it will in its native state, and it is plain that there may be larger elephants still in the forest and jungle than were ever killed by the European hunters. The fact that tusks larger than those ever found by the white hunters are often brought to the coast by the natives of Africa give evidence of this.

Jumbo, over eleven feet in height at the withers and weighing over six and one-half tons, was raised in captivity at London and was in this country for several seasons. He was the chief attraction at a circus while on this side of the Atlantic. He was without doubt the largest specimen ever in this country, but I have seen a number larger and heavier both in Africa and in Ceylon and Bengal. The height of the African elephant, which is considered larger than the Asiatic, is probably never over fifteen feet, and his weight is certainly not more than eight or nine tons. His length of body is in some instances over thirty feet.

The dimensions of the tusks vary greatly, and the maximum length is only approximately known. Several specimens measuring over twenty feet were brought me by natives, who declared they had seen much longer ones. One of these tusks weighed between two hundred and three hundred pounds.

The tusks of the elephant furnish exceedingly fine ivory, which is used for various purposes, such as knife-handles, combs, billiard-balls, etc. There is a great art in making a billiard-ball. Some parts of the tusk are always heavier than others, so that if the heavy part should fall on one side of the ball, it would not run true. The object of the maker is either to get the heavier portion in the center, or to make the ball from a piece of ivory of equal weight. In either case, the ball is made a little larger than the proper size; it is then hung up in a dry room for several months, and finally turned down to the requisite dimensions.

It is of course impossible to obtain any accurate data as to the age which the elephant may attain in its wild state, and can only, therefore, suggest an approximation to what this may be from captive specimens. Although full grown at the age of twenty-five, an elephant, as determined by the condition of its teeth, is not then mature. A female captured in Coorg in 1805, when about three years of age, did not appear to be particularly old-looking in 1898, although she had then passed her prime. Other individuals have been known to live in captivity for over a century; and since it is obvious that the artificial mode of life which prevails in this state cannot be one tending to promote longevity, it is probable that the estimate of a century and a half as the duration of life in the wild state is not excessive.

In India each elephant has his own individual master or keeper, and a great attachment often springs up between the beast and his human friend. In many cases when the keeper falls ill or is killed, the elephant must be killed, for he will not obey any one else. Some of the tamed animals refuse to take instructions from any one but their master, and the intelligence

shown is almost human. It is believed that the elephant has a small nerve center located in the brain and that in this peculiar formation is the seat of his intelligence. He is the only animal to possess this unusual mass, which corresponds to the human ganglion.

Long periods are required to complete the course of instruction, but when once mastered, the elephant is capable of doing many things which are of great use to man. It has been shown that the animal is used for many



FEMALE INDIAN ELEPHANT.

purposes, but when out of humor he will refuse to work and often proves destructive, rather than beneficial. Kipling, who wrote probably the best fiction ever printed regarding the elephant, has a number of stories which describe certain traits of the animal. In his story of "Moti Guj, Mutineer," he relates how the keeper of an elephant wanted to take a vacation. He arranged to return on the ninth day, and when the time for departure came he

struck the elephant on the foot nine times to indicate the number of days he would be absent. During the nine days the elephant performed his regular duties under the guidance of another keeper, but when the master failed to return on the tenth day, Moti Guj rebelled and refused to work. Not only did he absolutely refuse to perform his regular duties, but he went among the other elephants and induced them to go on a strike. There was a general revolt, and the police elephants, which are kept on all the large Indian plantations for the purpose of chastising unruly members of the band, were sent out to subdue the leader of the rebels. But Moti Guj showed fight and he finally overpowered and drove back the police. The herd was on a rampage the remainder of the day, but the following morning the keeper returned and Moti Guj was set to doing hard tasks. He accepted the situation cheerfully.

During one of the wars in India I had an opportunity of observing one of the elephants that had received a flesh wound from a cannon-ball. After having been two or three times conducted to the hospital, he always used to go alone to have his wound dressed.

The domesticated elephant is largely employed in India for the transport of heavy camp-equipage, for dragging timber to the rivers, and in lieu of horses for artillery; and is of especial value in traversing districts where roads are either wanting, or are so bad as to be impassable for other animals when laden. Elephants may be employed either as beasts of burden or of draught. In dragging timber of moderate dimensions, a short rope is attached to one end of each log, which the elephant seizes between his teeth, and thus raising his burden from the ground, half carries and half drags it away. Tuskers are both stronger and more useful than females, since their tusks often aid them in the performance of their duties.

The majority of the animals employed in tasks like the above, belong to what the natives term the inferior castes; tuskers of the finest and most approved form being far too expensive to be put to such uses. The majority of such animals are, indeed, purchased by the native princes, by whom they are used in state pageants, and the taller the animal, the greater his value.

In India these animals were formerly employed in the launching of ships. An elephant was directed to force a very large vessel into the water; but the work proved superior to his strength. His master, in a sarcastic tone, bade the keeper take away this lazy beast, and bring another. The poor animal instantly repeated his efforts, fractured his skull, and died on the spot.

A story is related of an elephant having formed such an attachment for a very young child, that he was never happy but when the child was near

him. The nurse frequently took it in its cradle, and placed it between his feet. This he at length became so much accustomed to, that he would never eat his food except it was present. When the child slept, he would drive off the flies with his proboscis; and when it cried, would move the cradle backward and forward, and thus rock it again to sleep.

A sentinel belonging to the present menagerie at Paris, was always very careful in requesting the spectators not to give the elephants anything to eat. This conduct particularly displeased the female, who beheld him with



INDIAN ELEPHANT, TRUMPETING.
(Showing methods of hunting it.)

a very unfavorable eye, and several times endeavored to correct his interference, by sprinkling his head with water from her trunk. One day, when several persons were collected to view these animals, a bystander offered the female a bit of bread.

The sentinel perceived it; but the moment he opened his mouth to give his usual admonition, she, placing herself immediately before him, discharged in his face a considerable stream of water. A general laugh ensued, but the

sentinel, having calmly wiped his face, stood a little to one side, and continued as vigilant as before. Soon afterwards, he found himself under the necessity of repeating his admonition to the spectators; but no sooner was this uttered than the female laid hold of his musket, twirled it round with her trunk, trod it under her feet, and did not restore it till she had twisted it nearly into the form of a screw.

At Macassar, an elephant driver had a cocoanut given him, which, out of wantonness, he struck twice against his elephant's forehead, to break. The day following the animal saw some cocoanuts exposed in the street for sale; and taking one of them up with his trunk, beat it about the driver's head, and killed him on the spot.

A tame elephant, kept by an officer in India, was suffered to go at large. The animal used to walk about the streets in as quiet and familiar a manner as any of the inhabitants; and delighted much in visiting the shops, particularly those which sold herbs and fruit, where he was well received, except by a couple of brutal cobblers, who, without any cause, took offense at the generous creature, and once or twice attempted to wound his proboscis with their awls. The noble animal, who knew it was beneath him to crush them, did not disdain to chastise them by other means. He filled his large trunk with a considerable quantity of water, not of the cleanest quality, and advancing to them, as usual, covered them at once with a dirty flood. The fools were laughed at, and the punishment applauded.

I have had experience with both the African and the Indian elephant and know the former to be the more dangerous animal of the two, and the one that is more ready to charge. The females, especially those that are barren and have small tusks, are far more dangerous than males, frequently charging without the least provocation, even when unwounded; and hunters will sometimes take the trouble to kill one of these worthless females before attacking the tuskers. I am of the opinion that the greater number of accidents that have occurred in African elephant-shooting may be set down to females.

The intrepid Arabs of the Soudan slay the elephant in the same manner as the rhinoceros, by hamstringing it with a long two-edged sword. Three or four mounted hunters, singling out a tusker and separating it from its fellows, follow it until, tired out, the animal faces its pursuers, and prepares to charge. Directly it does so, the hunter who is the object of the charge puts his horse to a gallop, and is closely followed by the elephant. Thereupon, two of his companions follow at their best pace behind; and as soon as

they come up with the fleeing animal, one seizes the reins of the horse of his fellow, who immediately leaps to the ground, and with one blow of his huge sword divides the tendon of the elephant's leg a short distance above the heel. The ponderous beast is at once brought to a standstill, and is at the mercy of its aggressors.

A somewhat similar method was formerly practiced in Mashonaland, only



AFRICAN ELEPHANT.

there the hunters went on foot, and their weapon was a broad-bladed axe; with this they crept up behind a sleeping elephant, and severed the back tendon of the leg in the same manner as above.

Other tribes in the same district employ a heavily-weighted spear, which is plunged into the animal's back by a hunter seated on a bough overhanging one of the most frequented pathways. On receiving the weapon, the elephant

of course immediately rushes off, and the weight of the spear, aided by blows from boughs, soon so enlarges the wound, that the animal quickly sinks to the ground, exhausted from loss of blood. In other districts, as in parts of Equatoria, the weighted spear is suspended from a horizontal bar fixed between two tiers of poles. The spear or knife is kept in position by a cord, which is held down by a stake that is directed horizontally toward the middle of the trap; and by another which, at a convenient angle, is interposed between this and the end. The animal, striking with his feet, loosens the contrivance, which then falls violently; the knife wounds the animal with singular exactness in the spot where the brain unites with the nape of the neck. The blow falls like a thunder-clap; and if the trap is well made, the elephant struggles and dies.

The European sportsman kills the African elephant either by lying in wait at one of its drinking-places, or by attacking it in the open, either on foot or on horseback. At the present day, however, most or all of the elephants remaining in South-Eastern Africa are restricted to districts infested by the tsetse fly, where horses cannot exist, and the pursuit must consequently be undertaken on foot. Owing to the conformation of its skull, the front-shot, so frequently employed in the case of the Indian elephant, is ineffectual with the African species, and there are but two spots where a bullet may be expected to prove fatal; one of these being in the head behind the eye, and the other in the shoulder immediately behind the flap of the ear.

The old bulls are frequently solitary for a time, but generally each belongs to a particular herd, which it visits occasionally. Solitary male elephants are known as "rogues," and are generally characterized by their fierce and quarrelsome disposition. Elephants that are permanently solitary are, however, comparatively rare, the majority of the so-called rogues really belonging to herds. These leave their companions, as a rule, merely for a time, in order to visit the cultivated lands, where the less venturesome females hesitate to follow, and where they inflict enormous damage on the growing crops.

In the kingdom of Siam there are occasionally to be found white elephants, but these are very scarce, and are regarded with much veneration. This is owing to the belief of the Siamese in the doctrine that the souls of men, after their death, pass into the body of some white animal. They imagine that the body of so rare an animal as a white elephant must of necessity be inhabited by the spirit of some king or other mighty personage. They say, that for all his majesty the King of Siam knows to the contrary, the

soul of his father, or some other ancestor, may inhabit the body of one of the white elephants; and, in consequence of this theory, every white elephant, in Siam, has the title of king, is lodged and fed in a very sumptuous manner, and is never ridden, even by the king himself, as the elephant is as great a king as he is.

A curious instance is recorded of the elephant's liking for sweetmeats, and

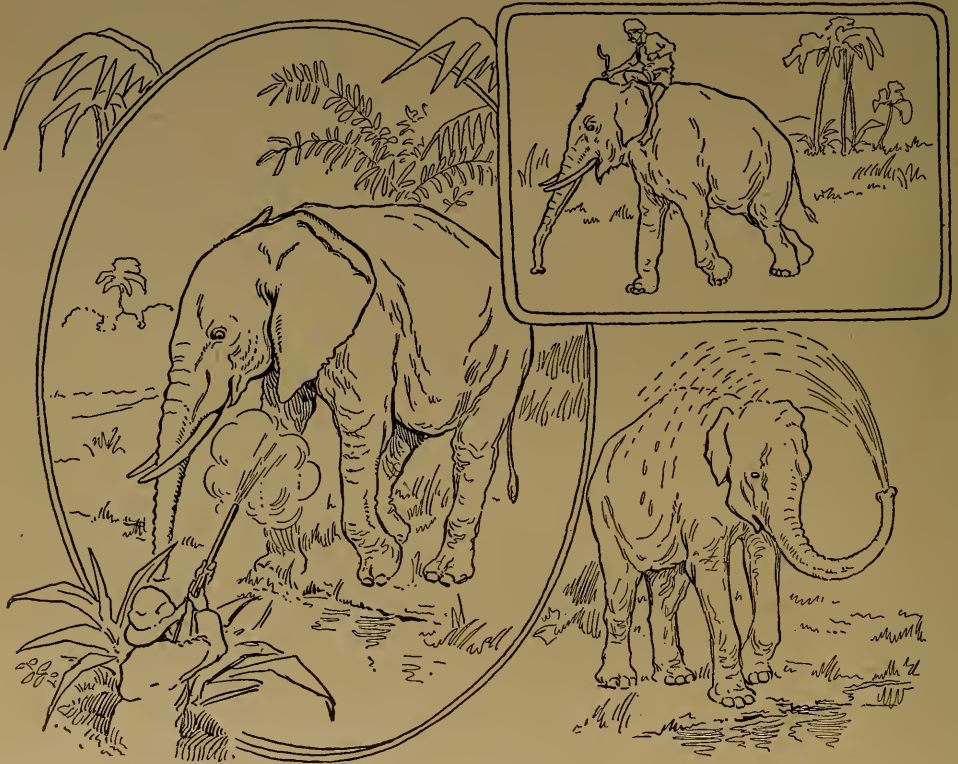


BABY ELEPHANT OF THE SOUDAN.

of a method adopted in his savage state to gratify this propensity. It chanced that a Coolie, laden with jaggery, which is a coarse preparation of sugar, was surprised in a narrow pass in India by a wild elephant. The poor fellow, intent upon saving his life, threw down the burden, which the elephant devoured, and, being well pleased with the repast, determined not to allow any

person to pass either way, who did not provide him with a similar banquet. The pass formed one of the principal thoroughfares to the capital, and the elephant, taking up a formidable position at the entrance, obliged every passenger to pay tribute. It soon became generally known that a donation of jaggery would insure a safe conduct through the guarded portal, and no one presumed to attempt the passage without the expected offering.

No animal is more ferociously destructive than an infuriated elephant;



SCENES IN AN ELEPHANT'S LIFE.

even in the domesticated state, they are known to be gratified with carnage, and hence they have been frequently employed as executioners by the despots of the East. One of the Epirote elephants, furious from pain, shook off his driver, and rushing back upon the phalanx which Pyrrhus had formed with closer ranks than usual, crushed and destroyed a great number of soldiers before any remedy could be found for such a disaster.

On a previous occasion the delight of the elephant in carnage had been

fearfully demonstrated. Before the body of Alexandria was laid in the tomb, three hundred of his bravest companions were crushed to death by elephants, in the presence of the entire army, by command of the regent Perdiccas.

An elephant, with a good driver, gives, perhaps, the best instance of disciplined courage to be seen in the animal world. Elephants will submit, day after day, to have painful wounds dressed in obedience to their keepers, and meet danger in obedience to their orders, though their intelligence is suf-



ONE OF MR. SEYMOUR'S HUNTING ELEPHANTS.

ficient to understand the peril, and far too great for man to trick them into a belief that there is no risk. No animal will face danger more readily at man's bidding. As an example, it is told that a small female elephant was charged by a buffalo, in high grass, and her rider in the hurry of the moment, and perhaps owing to the sudden stoppage of the elephant, fired an explosive shell from his rifle, not into the buffalo, but into the elephant's shoulder. The wound was so severe, that it had not healed a year later.

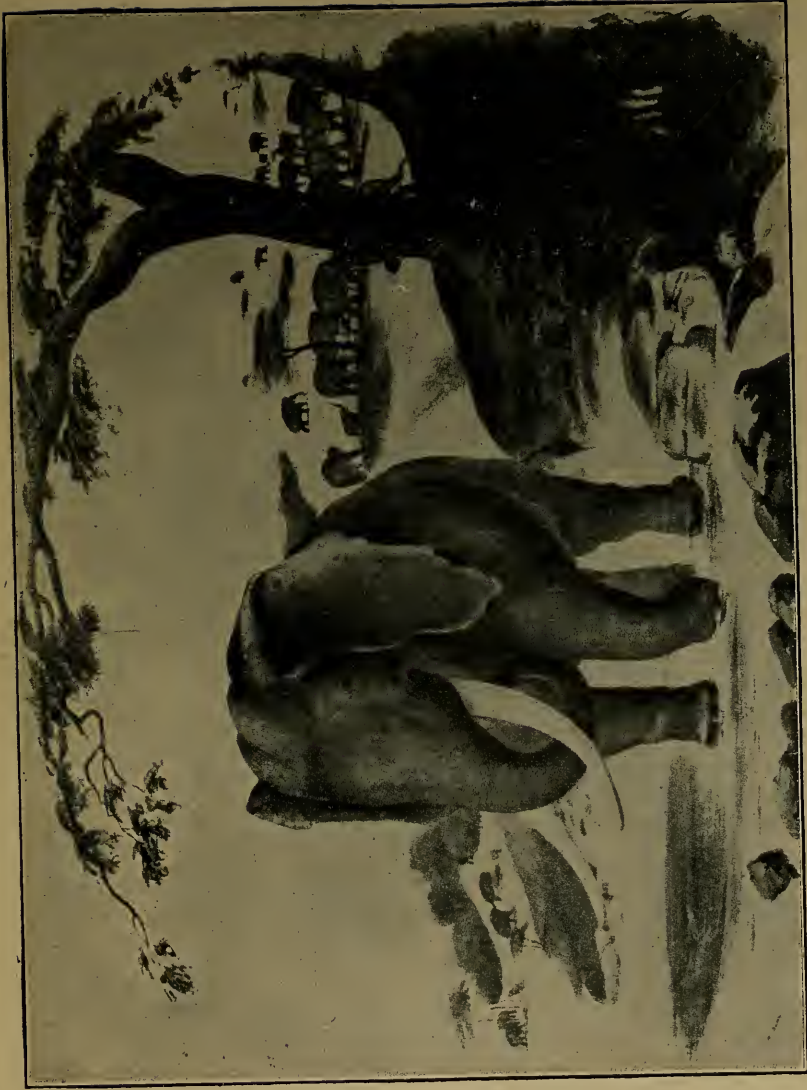
Yet the elephant stood firm, although it was gored by the buffalo, which was then killed by another gun.

In case of wounds or injuries the elephant has an immense advantage over all other animals, in the use of its trunk for dressing wounds. It is at once a syringe, a powdering-puff and a hand. Water, mud, and dust are the main "applications" used, though it sometimes covers a sun-scorched back with grass or leaves. Wounded elephants have marvelous power of recovery when in their wild state, although they have no gifts of surgical knowledge, their simple system being confined to plastering their wounds with mud, or blowing dust upon the surface. Dust and mud comprise the entire stock of medicines of the elephant, and this is applied upon the most trivial, as well as upon the most serious occasions. I have seen them when in a tank plaster up a bullet wound with mud taken from the bottom.

The African elephant is more of a tree-feeder than the Indian, and the destruction committed by a large herd of such animals when feeding in a mimosa-forest is extraordinary; they deliberately march forward, and uproot or break down every tree that excites their appetite. The mimosas are generally from sixteen to twenty feet high, and, having no tap-root, they are easily overturned by the tusks of the elephants, which are driven like crowbars beneath the roots, and used as levers, in which rough labor they are frequently broken. Upon the overthrow of a tree, the elephants eat the roots and leaves, and strip the bark from the branches by grasping them with their rough trunks. Two elephants may sometimes unite their strength in order to overthrow a tree of more than ordinary size. In South-Eastern Africa I have seen large areas of sandy soil ploughed up by the tusks of these animals in their search for roots.

In digging the elephant always uses one particular tusk, which, in consequence, is much more worn than the other. It is nearly always the right tusk which is selected for this duty; and the one so used is termed by the Sudanis the *hadam*, or servant.

In Southern Africa, at least, elephants drink almost every night, but only rarely during the day. In that part of the continent they seek the deepest shades of the forest during the heat of the day, and generally appear to sleep in a standing posture.



HERD OF AFRICAN ELEPHANTS. THE EXPLORER'S SKETCH GIVES A TRUE PICTURE OF THE LANDSCAPE
AS WELL AS OF THE ANIMALS.

THE SHIP OF THE DESERT

The Camel—The Carrier of Commerce of Northern Africa—Lives for Many Days Without Food and Drink—How the Camel Is Loaded—A Caravan in the Desert.

While the camel is not a wild animal, still it is so characteristic to African conditions that we cannot but give it a place in our menagerie. What the Roman roads were to Europe before the age of steam and electricity, the camel has been, and in some localities still is, to Africa from time immemorial. The immense sea of sand which covers a great part of Northern Africa would be practically inaccessible without the "Ship of the Desert"—the patient, enduring and indefatigable camel.

It is doubtful whether the camel ever was a wild animal in Africa. Most naturalists are agreed that it was introduced into the dark Continent by Arabian traders from Asia. At least it has never been found on African soil and in fact nowhere else either in its wild state. Like our domestic animals it has been man's faithful servant and companion already in prehistoric times and long before any written records of its history could have been produced. It is found on the oldest monuments in Egypt and must have been well at home there long before the time of Moses.

But the time is rapidly approaching when modern devices and means of communication shall have taken the place the camel now fills. The extension of commerce and trade along the borders of Sahara require improved mail service. At present it takes a caravan of camels three months to cover the thousand miles of desert and oases separating the Niger from Colomb-Bechor. This is too slow for our twentieth century business transactions. It is estimated that the same route could be made in twenty-four hours by aeroplane; and the French government is now about to establish an aerial mail service through the desert. The aeroplane trip will be made in three stretches of eight hours each, three stations being provided for taking fuel; and the whole journey need not take longer than three days at the most.

Notwithstanding the great service the "Ship of the Desert" is doing, commerce and trade in and around Sahara, still this vast ocean of sand is the greatest barrier to travel and transportation. Civilization, therefore, will make rapid headway in North and Central Africa once the aeroplane is placed

in operation. Aside from the incalculable benefit that the white man's prestige and rule will derive from its introduction into the Dark Continent, the aeroplane can greatly advance the exploration of the Sahara and further its reclamation.

The numerous French expeditions into the interior of the desert during the last decade, which have brought to light so many surprising and promising features, would have been impossible without the camel. The old conception of the Sahara was completely modified through the discovery, in its very center, of the fertile plateau of Ahaggar, supporting an extensive grazing industry among the Tuareg tribes. Another great caravan expedition by camels along the southern edge of the desert revealed the astounding fact that this region at one time had been an agricultural belt, while in the north the tests as to ground waters have shown that new oases may be formed in numerous places by artificial irrigation. Petroleum was also found conspicuously among the universal products. All these discoveries and explorations have been made possible through the camel, the only animal capable of traversing these desolate and arid regions.

The Arabs who inhabit desert regions would be helpless without the camel, which animal is to them as essential as the railroad is to the American citizen. Northern Africa and Central Asia embrace regions thousands of miles in extent, in which the camel is almost without exception the only large animal that can thrive on the scant supply of vegetation and water afforded. Hot, burning sand under the torrid sun offers no impediment to the sure-footed "ship of the desert," as the camel is called.

The camels of the Old World, and the llamas of the New, form a group of ruminating animals distinguished widely from the true ruminants, and which probably have had a totally distinct origin from more primitive even-toed members of this group.

The camels of the Old World, of which there are two distinct species, are characterized by their great bodily size and bulk, and the presence of one or two large fatty humps on the back. The feet are broad, with the toes very imperfectly separated; and the tail is comparatively long, reaching nearly to the hocks, and furnished near the end with long hair forming a terminal tuft. Callous pads, on which the animal rests when lying down, and which are present at birth, are found on the chest, the elbows, the wrists (commonly called the knees), and the knees. The whole form of these animals is far from beautiful, while the head is ugly in the extreme; and this want of bodily beauty is accompanied by a viciousness of temper and general stupidity of

disposition which can scarcely be paralleled elsewhere among domesticated animals.

The best-known species is the true or Arabian camel, which is found both in Africa and Asia, and is characterized by its single hump. It is a long-limbed animal, with a comparatively short coat of hair, and soft feet, adapted for walking on yielding sandy soil, and standing from about six feet eight inches to seven feet in height. The head is comparatively short, with a long and sloping muzzle, and convex forehead; the eyes are large, with a soft expression; and the small rounded ears are placed far back on the sides of the head. The contour of the back rises from the setting on of the neck to the loins, and then falls rapidly away to the tail. The hump, when the animal is in good condition, stands upright, but it alters considerably in shape according to age. The richer the food of the camel, the larger is its hump; while, when the food is poor and dry, the hump decreases in size; and accordingly in the rainy season this appendage attains its maximum development, while in the dry months it proportionately shrinks. In high-conditioned animals, the hump should form a regular pyramid, and occupy at least a quarter of the whole length, but when the animals are half-starved it almost disappears. The color of the hair is very variable, although a light sandy is the most common hue; there are, however, white, gray, brown, and even totally black camels; but those of the last-named color are held by the Arabs to be worthless.

The food of the camel in its natural state probably consisted entirely of branches and leaves of trees, and although grain is now largely given, a certain amount of green-food is absolutely essential to the animal's health. No matter how thorny the boughs may be, they are quite acceptable to the camel; and it is perfectly marvellous how the animals manage to eat such food without injury to their mouths. On such a diet, or even on dates, camels will do well; but when compelled to work for days with little or no food, they soon break down, as was disastrously shown in the expedition to Khartum.

The dromedary camel, called by the Arabs the "ship of the desert," because it serves to transport over an ocean of sand the commodities which the nomadic tribes are forced to seek in distant countries, possesses all the requisites for performing long journeys. Robust, docile and patient, it pursues its course with a steady gait, browsing a little on its way, and not needing water for three or four days. The elevated position of its head and its long neck prevent its being suffocated by the sand of the desert; its eyes, defended by

thick eyelids, are half closed to avoid the glare of the sun; its fleshy feet are remarkably broad, so that they produce only a slight impression upon the yielding surface of the desert, over which other animals find great difficulty in walking.

Its pace, suited to that of man, renders it admirably adapted to the movement of caravans, in which there is always a crowd of persons on foot. Considered as a beast of burden, the dromedary camel is of unquestionable



BACTRIAN CAMEL OF CENTRAL ASIA.

value in countries where the heat of the sun and the scarcity of food and water preclude the possibility, not only of any other domestic animals bearing burdens, but even of their traveling with speed and safety for great distances.

If the camel may be compared to a merchant vessel, the dromedary merits the title of a ship of war, since it is suited to the journeys and combats which lead the Arabs to traverse great distances over an ocean of sand.

Considered as a direct auxiliary of man in war, the dromedary may in many cases advantageously replace the horse. That the ancients employed it in war is a fact attested alike by monuments and writers.

Owing to its many services, the pagan Arabs held the dromedary camel in such veneration that they consecrated to the gods three females, which were exempted from labor, and the cream of whose milk was used for libations.

The pack-saddle of the camel consists of a cushion of cloth filled with fibres of the date-tree. The ends of this cushion are doubled together and form the inner part of the pack-saddle. Above this are placed two props or wooden angles, fastened together by two sticks of equal size made fast by means of small cords. The hump of the camel comes between the two branches of the pack-saddle. Two large bags usually constitute the load of a camel. They are suspended to the crosspieces which fasten the reins. The camel carries only a simple bridle attached to a headstall ornamented with tassels, little shells or glass ornaments, and surmounted by a bouquet of cock or ostrich feathers. The leader of the file carries, beside, around his neck, a little bell, the monotonous sound of which encourages the band and distinguishes it from other parties.

The camel is made to kneel during the process of loading or unloading. In order to force him into this position they bear upon his halter, crying "Kha! kha!" The animal exhibits more or less docility, though he never obeys without giving vent to groans either pitiful or enraged, by which, as also by certain movements of the head, he shows that he suffers, that he is sufficiently loaded, or that he dreads the fatigue of the journey. When they are traveling in caravans these cries, repeated every morning by each camel, indicate the moment of departure. The animal is retained in the position requisite for loading by doubling one of the front legs together and tying it at the knee, as it could still rise on three legs; refractory animals are fastened thus by two legs. The camel makes four sudden jerks in sitting, which he does by elevating his hind-quarters first, thus putting his rider or burden in an angle of forty degrees. Great caution, then, is requisite to prevent a dangerous fall. Only a quarter of an hour is required for loading, when the camel rises slowly and commences his journey. The driver, walking behind or at his side, urges him forward by crying, "Da! da!" When it becomes requisite to turn the animal to the right or left, it is done by pulling his tail in the opposite direction, and he obeys the movements as a vessel does the action of the rudder.

When a caravan is very numerous, people of the same country or tribe unite and form distinct groups, who journey separately at trifling distances from each other. The column is allowed to spread in proportion to the safety of the route, but is kept close and compact where the converse is the case.



ARABIAN CAMELS.

In most instances camels follow their guide or leader of the file, attached to one another by means of a rope fastened behind the pack-saddle of the one, to the headstall of the other.

A caravan en route, or rather a tribe journeying, presents a most picturesque appearance. The camels carry the tents, cooking utensils, and pro-

visions. Others bear canopies of linen or brilliant colored stuffs, on light frameworks made of wood or palm branches. Under these dais repose the women, children, invalids, and oftentimes the young camels which are unable to endure the fatigue of the journey. The men ride barebacked upon the rear ranks of the non-laden camels, and many enjoy tranquil slumber, undisturbed by fear of falling from their perilous position. The chiefs, on horseback, follow or escort the caravan, and men, on foot or mounted on asses, are scattered here and there the whole length of the file, according as occupation or inclination leads them.

During winter the caravan pursues its way from morning till night without stopping; but in summer a few hours, during the hottest portion of the day, is consecrated to repose. In any case the average number of hours in the day's journey does not exceed ten.

During the journey, the camel looks around for the pasturage he likes, and, by elongating his neck, browses upon it without discontinuing his march. At the evening halt, a locality as rich in pasturage as can be found is selected, the bags and all the luggage of the caravan are deposited in order, and piled around in a circle; the camels separate in search of pasturage, but are kept in sight by the drivers, who fasten their forefeet as a security against their wandering too far away. While the camels are browsing, their driver goes to fill the leathern bottles at the well or spring, if there be one in the locality; if not, the poor animals' only resource is patience.

The camel pays no heed to his rider, pays no attention whether he be on his back or not, walks straight on when once set agoing, merely because he is too stupid to turn aside. Should some tempting thorn or green branch allure him out of the path, he continues to walk on in the new direction, simply because he is too dull to turn back into the right road. He is from first to last an undomesticated and savage animal, rendered serviceable by stupidity alone.

In addition to its value as a beast of burden, the camel is also esteemed by the natives of many countries on account of its milk and flesh, while its hair is woven into ropes and cloth, and in some parts of India its bones are used instead of ivory for inlaying and decorative purposes.

The Bactrian camel of Central Asia is distinguished from the Arabian species, not only by its double hump, but likewise by its inferior height, stouter and more clumsy build, shorter legs, and harder and shorter feet, as well as by the greater length and abundance of the hair. This animal is, indeed, in all respects, better adapted for a rocky and hilly country than its

southern relative; its shorter and stouter limbs rendering it far less liable to accidents in traversing precipitous ascents. The largest development of hair occurs upon the top of the head, the neck and shoulders, the upper part of the fore-limbs, and the humps.

The Bactrian camel feeds chiefly upon the saline and bitter plants of the



A BABY CAMEL.

steppes which are rejected by almost all other animals; and displays a curious partiality for salt, drinking freely at the brackish water and salt lakes, which are so common throughout its habitat. Instead of confining itself to a strictly vegetable diet, the Bactrian camel will, when pressed by hunger, readily devour almost anything that it may come across, including felt-blankets, bones and skins of animals, flesh and fish.

The riding camels are a different breed from those used to carry merchandise, and a swift camel is as highly prized by an Arab as a good horse is prized by Americans or Europeans. The speed of these riding camels considered in connection with their endurance is something remarkable. Egyptian camels have been known to travel a hundred and twenty miles a day. They can go a hundred miles a day easily, and there are authentic cases in Africa of messages having been sent a thousand miles in ten days by camel.

The swiftest breed of the riding camel is known as "El Heirie." The Arabs, in their poetical way of speaking, describe the speed of a heirie something after this manner: "When thou shalt meet a heirie and say to the rider 'Salem Aleik,' ere he shall have answered the 'Aleik Salem' he will be afar off and nearly out of sight, for his swiftness is like the wind."

Although the camel serves its master well, it rarely receives good treatment in return. It is beaten with and without cause. At night its forelegs are tied together while the animal is in a kneeling position, thus preventing it from rising and straying. When it is over-loaded it will not rise, and no amount of beating will make it, although the Arab continues to belabor it with a club, which experience should have taught him is perfectly useless under the circumstances.

While the camel always wears a look of weariness and despondency, it is one of the most tireless of animals, and is fitted by nature to undergo hardships that would kill the average four-footed beast.

THE SCAVENGER HYENA.

Kermit Rides Down a Hyena—Habits of this Carrion-eating Beast—The Scavengers of the Velt and the Steppe.

The hyenas roam over the length and breadth of Africa, south of the Sahara, following the other animals as they change their habitat according to the seasons, and Colonel Roosevelt often heard them howling around his camp at night, for the hyena is a nocturnal beast. In the dark night its deep bass was heard and then it would laugh aloud, in a weird, shrill, shrieking treble. This laugh, seldom uttered, but making one's heart shudder, is not a thing to forget; on feverish nights it plagues one still in memory. No one need jest about it who has not himself heard it. He who has heard it understands how the Arabs take the hyenas to be wicked men living under a spell.



HEADS OF HYENAS FROM PHOTOGRAPHS.

The hyenas are the scavengers of the vast African plains; as a rule they do away with the carcasses of the big mammals, and also with the dead human bodies, before decay starts. A hunter once saw five hyenas running out of

the body of a dead elephant which had been killed by a professional sportsman. It is interesting to see them gulping down large pieces of flesh and big bones, which they grind with their strong teeth, thus marvelously quickly disposing of the biggest carcasses.

The hyenas are too cowardly to attack men, but their unwelcome presence can always be counted upon wherever human beings fall victims to famine, disease or war, yea they even dig up the corpses from the graves and devour them, and their hideous growl is often heard as they prowl around the graveyard at night-time. They also frequently venture within the houses to carry off meat and whatever they can seize—skins, pieces of leather, etc.—and still oftener attack and kill asses, sheep, dogs and poultry. Once in a great while it also happens that a child is carried off by a hyena and crushed between its formidable jaws, with one bite of which it can crush the leg-bone of an ox to splinters, crunching it as easily as if it were a stick of candy, and seem to think no more of it than we should of a slice of bread and butter.

Says a famous naturalist and traveler who has spent years on the East African hunting grounds:

In all my associations with hunters, travellers and naturalists, I have never yet been able to find one who would defend the hyena, which by common consent is classed as the most skulking, cowardly, cruel and treacherous of beasts.

The hyena is remarkable for its predatory, ferocious, and withal cowardly habits. There are several hyenas, the striped, the spotted, and the shaggy, rough-coated, but the habits of all are very similar. The hyenas, although very repulsive in appearance, are yet very useful, as they prowl in search of dead animals, especially of the larger kinds, and will devour them even when putrid, so that they act the same part among beasts that the vultures do among birds, and are equally uninviting in aspect. They not unfrequently dig up recently interred corpses, and in Abyssinia they even flock in numbers into the village streets, where they prey on slaughtered men who are thrown out unburied. One of these animals attacked the explorer Bruce in his tent, and was only destroyed after a severe battle. Their jaws and teeth are exceedingly powerful, as they can crush the thigh-bone of an ox with apparently little effort; and so great is the strain upon the bones by the exertions of these muscles, that the vertebræ of the neck become united together, and the animal has a perpetual stiff neck in consequence.

In Syria and Palestine the favorite haunts of the striped hyena are the

rock-cut tombs so common in these countries; but in India it is more commonly found in holes and caves in rocks. I have more than once turned one out of a sugar-cane field when looking for jackals, and it very commonly lurks among ruins; but in general its den is in a hole dug by itself on the side of a hill or ravine, or a cave in a rock. The call of the hyena is a very disagreeable, unearthly cry, and dogs are often tempted out by it when near, and fall a victim to the stealthy marauder. On one occasion a small dog belonging to an officer was taken off by a hyena very early in the morning.



SPOTTED HYENA.

The den of this beast was known to be not far off in some sandstone cliffs, and some sepoys of the detachment went after it, entered the cave, killed the hyena, and recovered the dog alive, with but little damage done to it. A hyena, though it does not appear to move very fast, gets over rough ground in a wonderful manner, and it takes a good long run to overtake it on horseback, unless in most favorable ground. A stray hyena is now and then met with by a party of sportsmen, followed and speared; but sometimes not till after a run

of three or four miles, if the ground is broken by ravines. It is a cowardly animal, and shows but little fight when brought to bay. The young are very tamable, and show great signs of attachment to their owner, in spite of all that has been written about the untamable ferocity of the hyena.

The striped hyena's food is mainly carrion or carcasses killed by other animals; and in inhabited districts the animal is much dreaded on account of its grave-robbing propensities. Portions of such carcasses as it finds are eaten on the spot, while other parts are dragged off to its den, the situation of which is generally indicated by the fragments of bones around the entrance. These hyenas will also feast on skeletons that have been picked down to the bone by jackals and vultures; the bone-cracking power of the hyena's jaws rendering such relics acceptable, if not favorite, food.

The striped hyena—probably on account of its “body-snatching” propensities—is cordially detested by the natives of all the countries it inhabits. When a hyena is killed, the body is treated in many parts of India with every mark of indignity, and finally burnt. On one occasion in the Punjab, I came across a party of natives cruelly ill-treating a nearly full-grown hyena, which had been rendered helpless by its jaws being muzzled and its feet broken. I soon ended the sufferings of the poor brute by a bullet.

Although, owing to their nocturnal habits, hyenas are seldom seen, yet in some parts of India, from the multitude of their tracks, they must be very common.

The African spotted hyena is much larger and more powerful than the striped species. It inhabits the greater part of Africa at the present day. Formerly the geographical range of this hyena was far more extensive than it is at present, as is proved by the vast quantities of its remains found in the caves of various parts of Europe, from Gibraltar in the south to Yorkshire in the north. It was formerly considered, indeed, that the so-called “cave-hyena” indicated a distinct species from the living one; but zoologists are now generally in accord in regarding the two as specifically identical, although the fossil European hyenas were generally of larger dimensions than the existing African form.

The cowardly and carrion-eating hyena is not a big game animal and our ex-President did not care to spend much time in hunting it. But Kermit put up one in a jungle, while the safari was camping on Kapiti Plains, and after an exciting chase over the stony steppe for several miles finally succeeded in bagging the fleeing beast.



STORY OF THE WILD SHEEP.

President Roosevelt simply stated a fact known to all Western hunters when he described the difficulties attending a successful pursuit of the Rocky Mountain sheep, or "big horn," as they are generally known. During Mr. Roosevelt's various outing excursions he took a keen delight in hunting this wary animal, but frequently he was compelled to acknowledge defeat. In the spring and summer the full-grown rams form separate bands of from three to twenty, and are usually found feeding along the edges of glacier-meadows, or resting among castle-like crags of the high summits; and whether quietly feeding, or scaling the wild cliffs for pleasure, their noble forms, and the power and beauty of their movements, never fail to strike the beholder with lively admiration. Their resting-place seems to be chosen with reference to sunshine and a wide outlook, and most of all to safety from the attacks of wolves. Flocks of these sheep have, on more than one occasion, been known to leap down a precipice one hundred and fifty feet in height.

They frequent the elevated and craggy ridges with which the country between the great mountain range and the Pacific is intersected; but they do not appear to have advanced farther to the eastward than the declivity of the Rocky Mountains.

Their favorite feeding-places are grassy knolls, skirted by craggy rocks,

to which they can retreat when followed by dogs or wolves. They are accustomed to pay daily visits to certain caves in the slaty rocks that are encrusted with a salty growth, of which they are fond. The flesh of this sheep is quite delicious when it is in season.

Although the "big horn" was numerous throughout an immense region a few decades ago, the advance of the white man has served to diminish their numbers, and, like the buffalo, the animal will soon be extinct unless the Government gives it protection. These sheep have been seen on the summits of the highest peaks in the United States, and their agility in crossing crags and glaciers is marvelous.

I shot a ram in Wyoming several years ago which stood four feet in height at the withers, weighed over four hundred pounds, and whose horns, measured along the curve, were forty-two inches in length. The ewes stand about three feet in height.

The magnificent wild sheep of Mongolia is known as the argali, and is as large as a full grown donkey. A closely allied species is found in Thibet. Both of these have many points of similarity with the "big horn."

The Pamir sheep takes its name from inhabiting the elevated district in Central Asia known as the Pamirs, or "Roof of the World." It is also found on the table-lands to the westward and northward of Eastern Turkestan.

The Pamir sheep, although furnished with longer horns, does not appear to attain quite such large dimensions as the Thibetan argali, from which it is mainly distinguished by the form of the horns, and also by color. In the male the horns, when viewed from the side, are seen to form a spiral of about a circle and a quarter; and when adult they are much longer than those of the argali, but are less massive at the base. In fine specimens I measured, the horns attained a length of from sixty to seventy inches along the curve, with a girth at the base of about fifteen inches. One specimen had the remarkable length of eighty-two inches, with a girth of eighteen inches.

The European member of this family is known as the mouflon, and formerly was found in all parts of continental Europe. In recent years the animal has become extinct except in Sardinia and Corsica. The mouflon is much smaller than the other species, rarely measuring more than thirty inches at the withers.

In Sardinia the mouflon, instead of being found on all the mountain ranges, are restricted to certain chains, and there they frequent only the highest ridges, generally confining themselves to such peaks as command

a view of the whole of the surrounding country. The flocks of mouflon are led by an old and powerful ram; but at the pairing-season the large flocks used to split up into small parties, consisting of one ram and several ewes. The rams engage in fierce conflicts among themselves for the supremacy; and during the months of December and January the mountains re-echo with the sound of the blows as one ram rushes against the head of another. The Sardinian mouflon is one of the most difficult animals to approach with



A MOUFLON FAMILY.

which I am acquainted. When they are alarmed, or at "gaze," they have a habit, or at least the rams have, of placing themselves in the middle of a bush, or in the shadow which it casts. The ewes, which are naturally less conspicuous, do this in a less degree. The mouflon are assisted by the wonderful alertness of their eyes. One of their favorite devices is to seek for spots on the lee-side of a ridge where the currents of air meet. Here,

and in otherwise favorable positions, they are quite unapproachable. Occasionally wild mouflon will desert their own kin to live among tame sheep; while sometimes also a motherless domestic lamb has been known to seek companionship among a flock of mouflon.

In conformity with its structure, the bharal of Thibet is intermediate in its habits between the sheep and the goats. Like the former, it is found



A MOUFLON OF SARDINIA.

on undulating ground, and frequently lies down during the day on its feeding-ground, though generally amongst stones; but, like the latter, it is a splendid climber, perfectly at home on precipitous cliffs, and when alarmed takes refuge in ground inaccessible to man. It is found in herds of from eight or ten to fifty or even a hundred; the males and females being generally

found apart in the summer, but frequently associating together at all seasons. The herds keep to high, open ground above forest, and never even enter bush. They feed and rest alternately during the day. Owing to their color it is peculiarly difficult to make them out when they are lying down amongst stones. It appears that these animals are never found below an elevation of ten thousand feet above the sea-level, while in summer they range up to fourteen thousand and sixteen thousand feet. Bharal are by no means difficult of approach in districts where they have not been much disturbed,



"BIG HORNS" OF THE ROCKY MOUNTAINS.

and on one occasion in Ladak I came suddenly upon a flock of five rams lying asleep in an unfrequented path.

The Barbary, or maned sheep, which is the only wild representative of the group met with in Africa, while agreeing with the bharal in the general character of its horns and skull, is distinguished by the great mass of long hair clothing the throat, chest, and fore-limbs, and likewise by the great length of the thickly-haired tail, which reaches slightly below the hocks.

The Barbary sheep attains a height of rather over three feet, and is of a nearly uniform pale yellow color.

The Arabs are in the habit of pitching their tents near the scanty springs frequented by these shèep, and daily lead their goats high up the mountains. Consequently, the animals have no means of escaping from them, as every



BARBARY, OR MANED SHEEP.

mountain within reach of water is similarly infested. They are constantly within sight and hearing of the Arabs and their goats, and as they cannot get away they have developed the art of hiding themselves to an extraordinary extent, and they have unlimited confidence in their own invisibility.

THE MUNGOOSE

Where Found in Africa—An All-around Fighter—Hater of Snakes—Kills a Poisonous Cobra—Clears Cuba and Porto Rico of Rats.

No traveler who is at all observant can fail to meet in the Masai steppe, which covers a great part of British East Africa, a graceful, marten-like animal, the mongoose. There are several species of them, different in color and size, varying from a good-sized weasel to a full-grown cat. They are often found living in ant-hills together with the ground-squirrels. The mongoose is social in its habits and often herds of these animals ravage the steppe, devouring everything eatable, plants as well as animals. In its rapid movements a string of mongoose often resembles a big, moving snake. To watch these agile animals affords a great deal of amusement. When they suspect danger they all run for home—that is, the termite-hill—and keep in hiding for hours. But by and by first one, then a second, and finally all poke their noses out of their little holes, venture out and about their stronghold, leaping and skipping, running in and out as if playing hide and seek.

An African traveler who has spent many years in the tropics of the dark Continent gives the following interesting details as to the natural history of the Mongoose. Says he:

To my mind the best all-around rough-and-ready fighter, of his size, in the animal kingdom is the mongoose. In India this little creature delights in nothing so much as to meet a cobra, the most deadly of all snakes.

The mongoose is about the size of a cat. It lies in wait for its hereditary enemy, or rather victim, for the fight always has one ending, and when the serpent comes into range attacks with a desperation born of the knowledge of the cobra's venomous bite. His mode of attack is to tease the snake into darting at him, when with inconceivable rapidity he pounces on the reptile's head.

Much has been written as to the combats of both the Egyptian and the Indian mongoose with venomous snakes, and also as to the alleged immunity of these animals from snake poison. The prevalent belief throughout oriental countries is that the mongoose, when bitten, seeks for an antidote, a herb or root known in India as manguswail. It is scarcely necessary to say that the story is destitute of foundation. There is, however, another view, supported by some evidence, that the mongoose is less susceptible to snake poison than other animals. I have not seen many combats, but, so far as I can judge from the few I have witnessed, the mongoose escaped

being bitten by his wonderful activity. He appears to wait till the snake makes a dart at him, and then suddenly pounces upon the reptile's head and crunches it to pieces. I have seen a mongoose eat up the head and poison glands of a large cobra, so the poison must be harmless to the mucous membrane of the former animal. When excited; the mongoose erects its long stiff hair, and it must be very difficult for a snake to drive its fangs through this and through the thick skin which all kinds of mun-



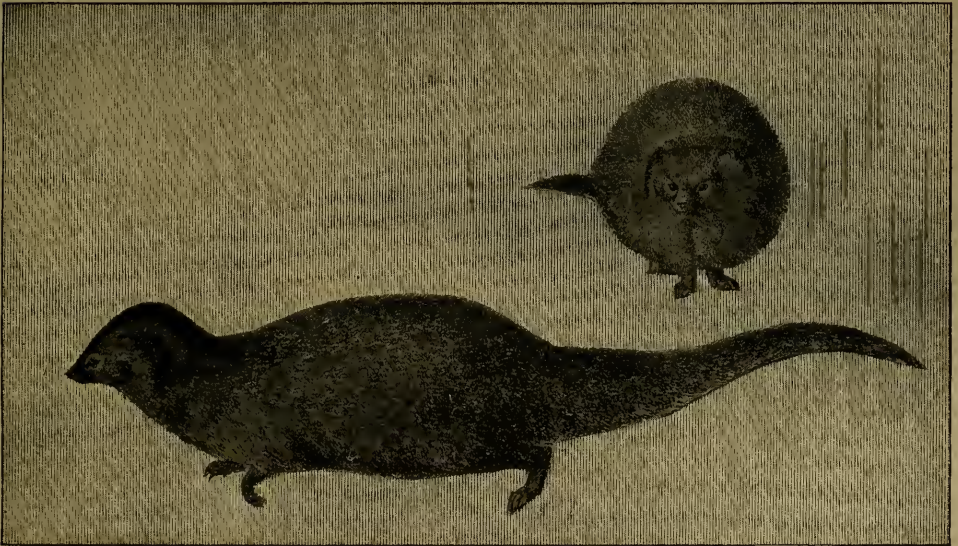
HOW THE MUNGOOSE FIGHTS.

(Killing a Cobra and attacking a Great Bustard.)

gooses possess. In all probability a mongoose is very rarely scratched by the fangs, and, if he is, very little poison can be injected. It has been repeatedly proved by experiments that a mongoose can be killed, like any other animal, if properly bitten by a venomous snake, though even in this case the effects appear to be produced after a longer period than with other mammals of the same size.

In addition to being a benefactor to the human race as a destroyer of

poisonous snakes, the Indian mongoose (like its Egyptian cousin) is equally valuable as an exterminator of rats, ships having more than once been cleared of those pests in a comparatively short period by the introduction of a mongoose. About twenty years ago the sugar-planting industry in Jamaica was threatened with annihilation from the damage inflicted on the canes by a particular species of rat, which absolutely swarmed in the island. After ferrets, toads and ants had been tried with more or less ill-success to stay the plague, the Indian mongoose was introduced. In the spring of 1872 nine of these animals were imported and let loose in the island.



INDIAN MUNGOOSES.

Within a few months young ones were seen about, and in less than six months there was evidence, clear and certain, that the rats were much less destructive than they had ever been known. Fewer rats were caught and fewer canes were destroyed, month after month. Within two years the expenditure in killing rats ceased almost entirely, and in another year the planters enjoyed relief and immunity; and ever since the losses from rats have been a mere trifle. Within a very short time neighboring islands found a similar benefit. The mongoose has been subsequently introduced, with equally satisfactory results, into Cuba, and America's new possession, Porto Rico.

The mongoose is easily tamed and in India is kept for the purpose of driving the cobra from the residences of the wealthy inhabitants. Snake-charmers carry the animal about with them. I at one time owned one which always accompanied me in my hunting trips. Whenever I shot birds the little fellow would stand on his hind legs when he saw me present the gun, and run for the bird when it fell. He had, however, no notion of retrieving, but would scamper off with his prey to devour it at leisure. He was a most fearless little fellow, and once attacked a big greyhound, who beat a retreat. In a rage his body would swell to nearly twice its size, from the erection of the hair; yet I had him under such perfect subjection that I had only to hold up my finger to him when he was about to attack anything, and he would desist. I heard a great noise one day outside my room, and found "Pips" attacking a fine male specimen I had of the great bustard, which he had just seized by the throat. I rescued the bird, but it died of its injuries. Through the carelessness of my servants he was lost one day in a heavy brushwood jungle some miles from my camp, and I quite gave up all hope of recovering my pet. Next day, however, in tracking some antelope, we happened to cross the route taken by my servants, when we heard a familiar little yelp, and down from a tree we were under rushed "Pips."

The true mongooses have long, weasel-like bodies, and a more or less elongated tail, which is generally thick at the root, and may be covered with long hair, its general color being like that of the body, but the tip often darker. The longer hairs of almost all the mongooses are marked with alternate darker and lighter rings, which communicate a peculiar and characteristic speckled appearance to the fur. The head has a pointed muzzle, with a rather short nose, in which there is a groove on the completely naked under surface. The ears are small and rounded. The limbs are likewise of extreme shortness, the feet being provided with five toes, of which the first, both in front and behind, is extremely small. These toes are generally detached, but may be slightly connected by a small web at their bases. The under surfaces of the fore feet are generally naked, while in most cases only the front part of the soles of the hind feet are free from hair.

The meerkat, as the South African mongoose is known, is a small animal of slender form, with a tail of about half the length of the head and body. The fur is long and soft, of a light grizzled gray color, with black transverse stripes across the hinder part of the back, and the tail yellowish, with a black tip. The longer hairs are broadly ringed with black and white, the white

predominating. The transverse light and dark bands on the loins are formed by the regular arrangement of the hairs, by which the white and black rings come opposite to each other on adjacent hairs. Meerkats may be distinguished at a glance from all other mongooses by their elongated nose and claws, as well as by their peculiar coloration, no other species having ears differing in color from the rest of the head.

South African meerkats appear to be confined to Cape Colony, extending at least as far north as Algoa Bay. These animals form most admirable



SOUTH AFRICAN MUNGOOSEES OR MEERKATS.

and amusing little pets, nearly every homestead having one or more of these creatures. In their wild state the meerkats live in colonies or warrens, burrowing deep holes in the sandy soil, and feeding chiefly on succulent bulbs which they scratch up with the long, curved black claws on their fore feet. They are devoted sun-worshippers, and in the early morning, before it is daylight, they emerge from their burrows, and wait in rows till their divinity appears, when they bask joyfully in his beams. They are very numerous on the arru, and, as you ride or drive along through the veldt, you often come upon little colonies of them sitting up sunning themselves,

and looking, in their quaint and pretty favorite attitude, like tiny dogs begging. As you approach they look at you fearlessly and impudently, allowing you to come quite close; then, when their confiding manner has tempted you to get down in the wild hope of catching one of them, suddenly all pop so swiftly into their little holes that they seem to have disappeared by magic.

Although in the Cape it appears that the name meerkat is also often applied to the thick-tailed mongoose, it is the true meerkat alone which makes such a charming pet. The quaint, old-fashioned little fellow is as neatly made as a small bird; his coat, of the softest fur, with markings not unlike those of a tabby cat, is always well kept and spotlessly clean; his tiny feet, ears and nose are all most daintily and delicately finished off, and the broad circle of black bordering his large dark eye serves to enhance the size and brilliancy of the orbs.

The most typical representative of the mongoose family is the Egyptian mongoose or ichneumon, inhabiting Africa, north of the Sahara Desert, Palestine, Asia Minor, and the southern portions of Spain. It was one of the sacred animals of the ancient Egyptians, and is often depicted on their frescoes. It feeds largely upon the eggs of crocodiles, although this habit has not been recorded of any of the Indian species. It was, and I believe still is, domesticated in Egypt; and has the same antipathy to snakes alluded to under the head of the common Indian species. The Egyptian mongoose is a large species; the length of the head and body being about twenty inches.

THE CARACAL-AFRICAN LYNX

A Sportsman's Stories About the African Lynx—Tamed Cubs—The Lynx Catching Jack-Rabbits—Its Valuable Fur—It Catches Birds on the Wing—"Lynx-eyed."

Our ex-President once in awhile happened to come across the East African representative of the lynx family—the caracal. It is a rare chance to meet this animal in day-time, for it comes out of the bush chiefly at night. Once, says a famous hunter, I was watching pygmy antelopes on the velt when I saw, not more than sixty feet from me, a lynx looking out for the same game. I did not mean to let my chance slip and shot it on the spot.

Another time I was still more fortunate. Not far from my camp on the steppe I had noticed about sixty-four ostriches. As they were marching, I merely observed them with my field glass. One day, however, I could not resist the temptation and decided to shoot a male bird, which I meant to present to the Royal Museum in my native country. I singled out one and, approaching within six hundred feet, fired. The bird flapped its wings and fell. The same moment something began to move within the bush which served me as cover. I was startled and also considerably scared, for I thought I had disturbed the most dangerous of felines—a leopard—in its lair. It was, however, a lynx, which tried to escape, but which fell a victim to the second bullet of my double-barreled rifle. This was luck, indeed; a fine double shot—an ostrich and a lynx.

In my various travels I have met and studied no less than twenty species of lynx. The true lynx, that makes its home in Europe and northern Africa, is the best representative of the general class, but the American species have many similar characteristics.

The body is always marked with small black spots during the summer. In some instances, perhaps in young animals only, these spots continue during the winter. This, however, appears to occur only among the lynxes of Europe; those of Asia having the winter dress without spots, except on the flanks and limbs, while they may be also wanting there. The hairs of the fur vary in color in different parts of their length, and are tipped with black. The ears are gray on the outsides, with black margins, tips, and tufts. Occasionally the under-parts of the body are spotted. The length of a full-grown lynx is thirty-three inches, exclusive of the tail, which measures only seven and three-quarters inches; but the length of the head and body may be upwards of forty inches.

In Ladak, where the lynx is a rare animal, but seldom seen by Europeans, its chief food appears to consist of the blue hares which occur in swarms in many of the higher valleys. One summer when shooting at a high elevation near Hanle, in Spiti, I suddenly came upon a female lynx with two cubs. I shot the mother, and as the cubs concealed themselves among some rocks, I barricaded them in, and went on with my hunting. On arriving in camp, I sent back men to try and catch the cubs; in this they succeeded, and brought them back to me. They were about the size of half-grown cats, and more



THE CARACAL OR DESERT LYNX.

spiteful, vicious little devils cannot be imagined; they were, however, very handsome, with immense heads and paws. For two or three days they refused all food, but at the end of that time they fed quite ravenously from the hand.

The Canada lynx is a native of North America, and is remarkable for its gait. Its method of progression is by bounds from all four feet at once, with the back arched. It feeds principally on the American hare, as it is not courageous enough to attack the larger quadrupeds. Its length is about three

feet. The Indians sometimes eat its flesh, which is white and firm, and not unlike that of the American hare itself. Its skin forms an important article of commerce, and between seven and nine thousand are exported annually by the Hudson's Bay Company.

The pardine or Southern European lynx is, perhaps, the handsomest representative of the entire group, its fur being distinctly spotted at all seasons



THE CANADA LYNX.

of the year. The color of the body is yellowish above, and white beneath; the rounded black spots occurring on the body, tail and limbs. From the examination of the skin alone I regard this animal merely as a southern spotted variety of the common lynx, analogous to the spotted and banded southern varieties of the American bay lynx. An examination of the skull showed, however, some differences from that of the northern lynx.

This lynx is found in Europe in Spain, Sicily, Sardinia, Greece and Turkey. Its habits are probably very similar to those of the northern species.

The foxy-colored cat known as the caracal is a species of lynx, and agrees with the latter in its long limbs, penciled ears, and the characters of its teeth; but in its longer tail, absence of a ruff round the throat, and less close and thick fur, it resembles the caffre-cat. The transition from the typical cats to the lynxes is, therefore, complete. The caracal is sometimes called the desert lynx.

In addition to its long limbs it is characterized by its slender build, the length of the tail being equal to one-third of that of the hind leg and body, and by the long tufts of black hair surmounting the long ears. The length of the head and body varies from 26 to 30 inches, and that of the tail from 9 to 10 inches; the height at the shoulder being from 16 to 18 inches.

This species is sometimes known as the Persian, and at others as the red lynx, but the latter name is properly applied to a North American variety of the true lynx. Although a rare animal everywhere, the caracal is spread over the greater part of India, with the exception of Bengal, the Malabar coast, and the Eastern Himalaya. It is unknown to the eastward of the Bay of Bengal, but towards the southwest it is found in Mesopotamia, and perhaps the Persian highlands. It is also found in Arabia; and over a large portion of Africa it is the sole representative of the lynxes.

We have little or no information as to the habits of the caracal in Africa, and only a scant record of its mode of life in India. I know, however, that it dwells among grass and bushes, rather than in forests. Its prey consists largely of gazelles, the smaller species of deer, hares, pea-fowl, florican, cranes, and other birds; and so active is the creature, that it has the power of springing up and capturing birds on the wing at a height of five or six feet above the ground. The caracal is easily tamed, and in some parts of India is trained to capture several of the animals mentioned above as forming its natural prey. It is a favorite amusement among the natives to let loose a couple of tame caracals among a flock of pigeons feeding on the ground, when each of them will strike down as many as ten birds before the flock can escape. It is believed that the expression "lynx-eyed" owes its origin to this species.

HIPPOPOTAMUS HUNTING

Colonel Roosevelt's Thrilling Adventure and Narrow Escape on Lake Naivasha—He Kills Two Huge Hippopotami.

The hippopotamus is one of Africa's most interesting pachyderms. While found in the vicinity of almost every lake and river in East Africa, these survivors from a past period of the earth's history are getting less and less numerous. Consequently our former President was very anxious to secure a good specimen for our National Museum. His first attempts, however, were rather disappointing. While stopping as a welcome guest at the extensive hunting grounds of Captain F. Attenborough and his brother on the beautiful volcanic Naivasha Lake he at last got a chance to satisfy his desire. His hospitable hosts, who have built an artificial lake on their magnificent estate, wherein they have two or three dozen hippopotami, insisted that the Colonel supply himself from this easily accessible store. But our Rough Rider found this method of hunting in Africa altogether too tame and set out on the lake alone, only accompanied by two of his native gunbearers.

Hunting hippopotami is a very dangerous sport, for the beast is as familiar with his watery domain as a fish, and often will keep under the water so as to be invisible to the hunter, though he may be in the immediate vicinity of the boat. Sometimes he will swim right under the boat and by a sudden jerk throw the hunters overboard before they have time to realize their danger. The chances of escape in such a case are very slight.

The Colonel had made up his mind not to leave Lake Naivasha until he had secured a fine specimen for the expedition. For several hours his search was in vain. In his small row-boat he had already covered several miles of his watery hunting grounds and had reached a distant and isolated part of the lake, far away from his safari, when suddenly the calm surface was violently disturbed as by a tempest and high billows were rising all around. Our sportsman had at last struck upon a school of hippopotami. The huge unwieldy beasts were apparently not less surprised than the Colonel. There were a whole dozen of them and they crowded in upon the small skiff from all sides, threatening to overturn it and throw the men overboard. If the frenzied brutes had succeeded in their mad fury in upsetting the raft both the ex-President and his frightened oarsmen would have met with instantaneous death. The two terror-stricken boatmen fully realized the danger, but were too fright-

ened to pay attention to Mr. Roosevelt's commands. Had they been alone they surely would have been lost. But the Colonel realized that to lose one's head in such a situation is to lose one's life. He threw his heavy rifle to his shoulder and sent a solid "405" Winchester bullet over the heads of his crouching and trembling porters right through the brain of the nearest hippo, a magnificent cow, which seemed to be the head of the herd. The buzzing missile killed the huge beast outright, and another bullet performed the same service to a gigantic bull, which seemed intent upon taking a speedy and bloody revenge on the slayer of his mate. Two monster beasts were floating dead at only a few yards' distance from the boat and the rest disappeared from view like magic, for these colossal animals possess the power of diving under the water at will and can bear submersion so long that when they need to come to the surface again for breathing they are too far away to be successfully pursued. The Colonel's oarsmen were so frightened that he had great difficulty in getting them to approach the two beasts even after they were killed.

The large bull bagged by Mr. Roosevelt was fourteen feet in length. Its head was about the size of a big traveling trunk. To hit such a big head is of course easy, but to pierce the brain box is difficult because of its small size as compared with the head. A hippo brain weighs only two or three pounds.

Meanwhile the Colonel's long absence from the camp had caused no little anxiety and his party had set out in a steam launch in search of their lost leader. They did not get back to the camp until next morning, however, for the two carcasses had to be towed in, as they were too valuable to be left adrift till next day and perhaps lost. They were the finest specimens the expedition had secured so far.

The hippopotamus is chiefly hunted on account of his tusks, which supply the trade with high-grade ivory, which is mostly used in the manufacture of artificial teeth. A hippo tooth weighs about five pounds and is worth from six to ten dollars. Its black hide is also used for various purposes. The natives cover their shields with it, for it is impregnable to an arrow and to an ordinary rifle bullet too. From the hippo hide is also made the famous sjambok, a most effective African whip used on oxen and natives and comparable only with the Russian knout. It was an instrument of this kind which a native chief advised Dr. Livingstone to use in converting the natives, as he thought preaching was too slow a method.

Upon the party's return to the camp the two huge beasts were pulled out of the water by a crowd of about 150 natives. One of our illustrations shows a group of natives around the carcass of the huge monster preparing to land



EX-PRESIDENT ROOSEVELT MEETS TWELVE HIPPOPOTAMI.

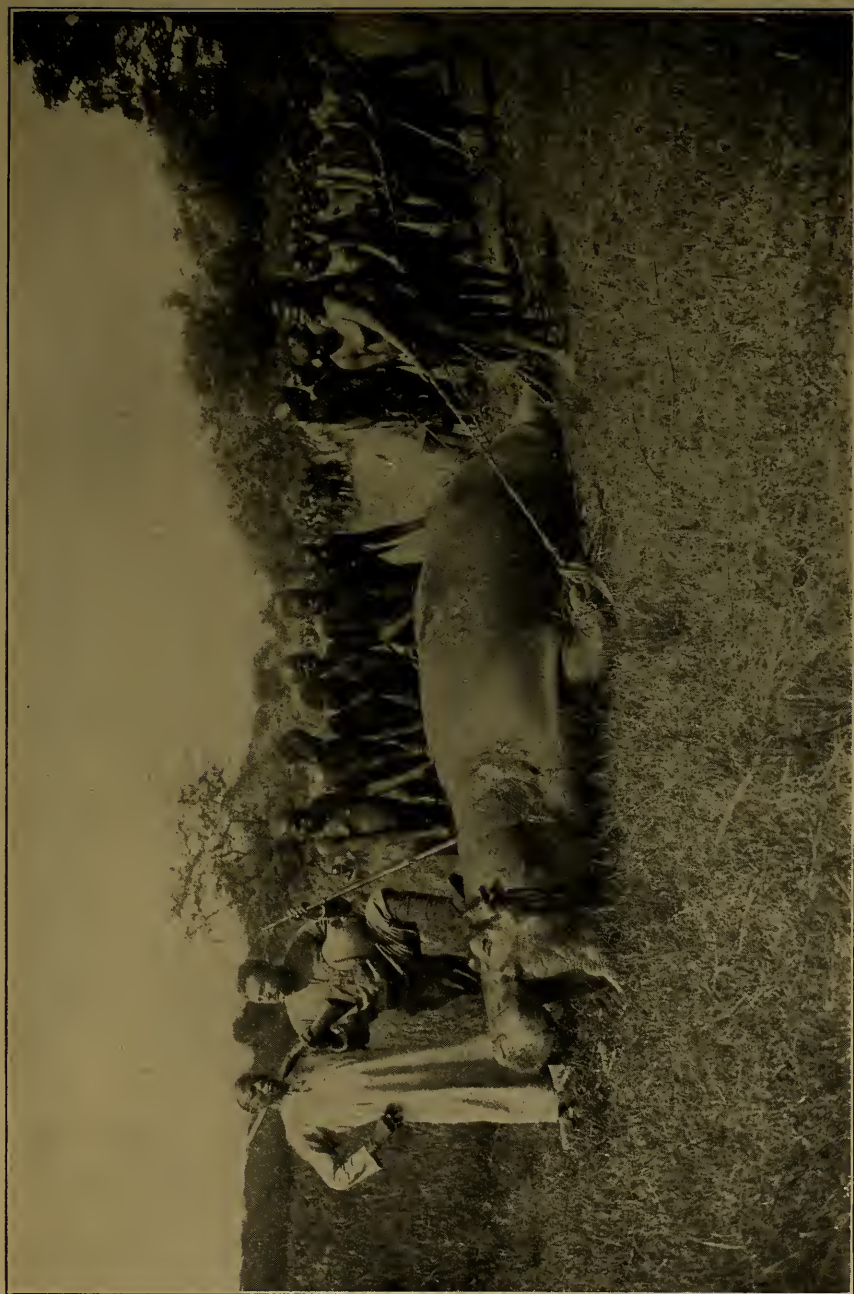
it. They are always very willing to assist a hunter who is out for hippopotamus, for they are very fond of its meat. Colonel Roosevelt treated his native gunbearers to a feast on hippopotamus fat and meat, and after the huge animals were pulled high and dry the flesh was cut into small pieces by the hyena-like hungry aborigines and eaten raw, while Prof. Edmund Heller, the skilled taxidermist of the party, went to work right away to preserve the hides for the Smithsonian Institution and to scrape the flesh from the bones so as to get their skeletons in good shape for the museum.

Another illustration shows the natives at work pulling the beast along after it was landed. The picture and the great number of natives required to



Photo., Underwood.

DRAGGING THE HIPPO TO SHORE.



From photograph

NATIVES, DRAGGING THE HIPPO TO CAMP.



From photograph.

KAVIRONDO WOMEN DRAGGING HIPPOPOTAMUS HEAD TO THE VILLAGE FOR THEIR CHIEF.

move the body give our reader an idea of the size and weight of this gigantic beast. Strange to say the native women never track the hippo nor eat its meat for fear of becoming barren. Females represented on opposite page are women of the Kaviondo tribe engaged in dragging a hippopotamus head for their chief to eat. The head is considered a morsel of "delicatessen."

While the American safari stayed in the Sotik district two of its members, Major Mearns and J. Alden Loring, the naturalist, engaged in an expedition to Mount Kenia and collected about 3,000 specimens of birds, insects and other small animals. In his climb of the mountain Mr. Loring reached an altitude of 16,500 feet. The specimens were taken to Mombasa to be packed for shipment to America.

Mount Kenia is an extinct volcano covered with numerous extensive glaciers. Its height is about 17,200 feet. This gigantic mountain rises gradually by long gentle slopes and the American expedition found that the fertile soil of the mountain sides had attracted numerous European settlers, who found the cultivation of plants and vegetables suitable to the climate very profitable.

The following instructive facts about the African hippopotamus will no doubt interest our readers.

It is related of a former United States Senator from Ohio that he was one day at a circus and menagerie, where he was watching the feeding of the hippopotamus, when a party, among whom was a dentist, approached. The dentist laughingly said:

"Many's the time I took molars like that fellow has, and put them in the mouths of my patients."

Pressed to explain what he meant, he stated that the tusks of the hippopotamus were of finest ivory and used in making false teeth. The Senator had been an attentive listener to the conversation, and suddenly he was seen to shudder and turn pale. Reaching into his mouth he took out a plate, and, passing it to the dentist, asked whether the teeth in it were made from the hippopotamus' tusks. When he was assured they were, he refused to replace them, and never again wore false teeth. A peculiar lispng prevented his making speeches after that, but no amount of persuasion sufficed to overcome his disgust at the teeth.

The hippopotamus is generally spoken of as a river horse, because that is the translation of its Greek name, but "river hog" would be a more truthful description.

Hippopotami are bulky animals, with round, barrel-like bodies of great

length, very short and thick legs, and enormous heads. Indeed, the ugly head of a hippopotamus appears as if it were too large and heavy for its owner, since the animal may frequently be seen resting its ungainly muzzle on the ground, as though to relieve the neck from the strain of its weight.

There is, in all probability, but one species of the hippopotamus. It inhabits Africa exclusively, and is found in plenty on the banks of many rivers in that country, where it may be seen gamboling and snorting at all times of the day.

These animals are quiet and inoffensive while undisturbed; but, if attacked, they unite to repel the invader, and I have known them to tear several planks from the side of a boat, and sink it. They can remain about five or six minutes under water, and, when they emerge, they make a loud and very peculiar snorting noise, which can be heard at a great distance.

In size the full-grown hippopotamus is equal to the rhinoceros. In form it is uncouth, the body being extremely large, fat, and round; the legs are very short and thick; the mouth extremely wide, and teeth of vast strength and size. The eyes and ears are small. The whole animal is covered with short hair, thinly set, and is of a brownish color. The hide is in some parts two inches thick, and not much unlike that of the hog.

From the unwieldiness of his body, and the shortness of his legs, the hippopotamus is not able to move fast upon land, and is then an extremely timid animal. If pursued it takes to the water, plunges in, sinks to the bottom, and there walks at ease. It cannot, however, continue long without rising for air, though, if threatened with danger, it does this so cautiously that the place where its nose is raised above the surface of the water is scarcely perceptible.

If wounded, the hippopotamus will rise and attack boats or canoes with great fury, and will often sink them by biting large pieces out of their sides. In shallow rivers it makes deep holes in the bottom, in order to conceal its great bulk. When it quits the water it usually puts out half its body at once, and smells and looks round; but sometimes rushes out with great impetuosity, and tramples down everything in the way. During the night it leaves the rivers to feed on sugar-canes, rushes, millet or rice, of which it consumes great quantities.

The Egyptians are said to adopt a singular mode of destroying this voracious animal. They mark the places it frequents, and there deposit a quantity of peas. When the beast comes ashore, hungry and voracious, it eagerly devours the peas, which causes a thirst. It then rushes into the

water, and drinks so copiously that the peas in its stomach, being fully saturated, swell so much as soon afterwards to cause his death. Among the Kaffirs in the south of Africa the hippopotamus is sometimes caught by means of pits.



THE HIPPOPOTAMUS.

The gait of this animal, when undisturbed, is generally so slow and cautious that it often smells out the snare, and avoids it. The most certain method is to watch at night, behind a bush close to its path, and strike it in the knee joints with a sword.

The ancient Egyptians were in the habit of harpooning the hippopotamus, and this custom is still kept up by the Sudanis on the upper Nile. The usual plan when a party of these animals has been observed in the river, is for a couple of hunters, each armed with a harpoon to which a line is attached, to enter the river some distance above, and swim cautiously down on the herd. When within striking distance, both men hurl their weapons at the same time. To each is attached a wooden float, which marks the position of the animal while below the surface, and the chase is taken up by other hunters on the bank armed with harpoons and lances. By an ingenious arrangement, the float is at length captured by a rope and the animal dragged to shore, where it is despatched with lances. This, however, is frequently not accomplished without the death of one or more of the intrepid hunters. In Central Africa, on the other hand, the hippopotamus is harpooned from canoes. In other parts the favorite method is to suspend a weighted spear, frequently tipped with poison, over a branch of a tree near the tracks of the hippopotamus, and to make fast the end of the line, to which it is attached to stakes on either side of the path. When the animal comes along, it strikes against the line, the stakes are loosened, and the heavy spear comes down with a thud on its head or back.

THE WILD BOAR

Boars Often Mistaken For Lions—Dangerous Sport for Hunters—Furious Charge on Horses, Elephants and Camels—Fight Between a Wild Pig and a Snake.

While North Africa is the home of a wild hog resembling the European variety, in the countries south of the Sahara are found several other species of wild hogs. One was found by Colonel Roosevelt near many rivers in the more settled parts of British East Africa, another in the vast Masai districts. He found the hunt of a strong, full-grown wild boar both exciting and profitable, for its savory flesh was a welcome addition to the bill of fare of his safari, and its tusks are valuable trophies. "The wild hog does a great deal of damage to our plantations and fields, rooting and eating the fruits at nighttime," said an African settler to our ex-President.

While its eyes are weak, its hearing and sense of smell are keen. Boars fleeing through the high grass or through thickets, have often been mistaken for lions by the natives. The bristles on their back, often over twelve inches long, seen from a distance, really suggest a lion's mane.

The wild hog, or boar, inhabits many parts of Europe, especially the forests of Germany, where the chase of the wild boar is a common amusement. It has become extinct in this country for many years. Its tusks are terrible weapons, and capable of being used with fatal effect. They curve outwards from the lower jaw, and are sometimes eight or ten inches in length. In India, where the boar attains to a great size, the horses on which the hunters are mounted often refuse to bring their riders within spear stroke of the infuriated animal, and I have seen it kill a horse, and severely injure the rider with one sweep of its enormous tusks.

The wild boar is distinguished by a body generally of dusky-brown or grayish color, having a tendency to black, and being diversified with black spots. The front teeth or tusks in the male are long and powerful, and project beyond the upper lip, the mouth is large, and the elongated head is set on a short neck rising out of a thick and muscular body. The size is variable, an old wild boar, measured by a hunter, being five feet nine inches long, while a four-year-old of the more ordinary size measured three feet without the tail. The female is smaller than the male and with smaller tusks. The hairs of the body are coarse, intermixed with downy wool. On the neck and shoulders the hair takes the form of bristles, being long enough to be called a kind of mane which the animal is enabled to erect if

irritated. The young has the body marked with stripes of a reddish color running lengthwise.

The lower tusks of the male wild boar, which project about three inches from the jaw, and are kept with edges as sharp as razors by wear against those of the upper jaw, are most formidable weapons, capable of ripping open a horse at a single stroke. Both the European and the Indian species are among the boldest and fiercest of all animals, charging men, horses, or elephants time after time without a moment's hesitation, and in spite of the most desperate wounds. Indeed, the injuries that a wild boar will sustain



EAST AFRICAN WILD HOG.

without loss of life are perfectly marvelous. I once killed an old boar, in the skull of which the broken extremity of the tusk of another boar was firmly embedded, with its point penetrating into the brain-cavity a short distance behind the left eye.

Although the speed of a wild pig is considerable, yet it cannot be maintained for any long distance, and accordingly, either a boar or a sow may be easily overtaken by a well-mounted horseman after a comparatively short

run. Both as regards speed and inclination to fight there is, however, considerable local variation among the wild pigs of India; the large, heavily-built animal found in Bengal being much more disposed to show fight than the lighter pig of the Punjab, which has a greater turn of speed. In spite of its boldness, the Indian wild boar seldom makes unprovoked attacks; but when once roused nothing will stop it. An instance is on record of a boar charging, overthrowing, and ripping open a camel; and there are several



A FAMILY OF WILD HOGS.

well-authenticated cases of boars having attacked and killed or beaten off tigers.

The curious Japanese masked pig has an extraordinary appearance, from its short head, broad forehead, and nose, great fleshy ears and deeply-furrowed skin. Not only is the face furrowed, but thick folds of skin, which are harder than the other parts, almost like the plates on the Indian rhinoc-

eros, hang about the shoulders and rump. It is colored black, with white feet, and breeds true. That it has long been domesticated there can be little doubt; and this might have been inferred even from the circumstance that its young are not longitudinally striped.

The extraordinary development of the tusks in the males of the animal to which the Malays have given the name of Babirusa (meaning pig-deer) is so remarkable as to suggest at first sight the idea of a malformation. The babirusa, which is an inhabitant of Celebes and Boru, and is the sole repre-



WILD HOG OF THE PHILIPPINES.

sentative of its genus, has, indeed, derived its name from these abnormally-developed tusks, which have led the Malays to liken them to the antlers of the deer. In the boars the upper tusks, while curving upwards like those of an ordinary wild pig, instead of protruding from the margins of the jaws, arise close together near the middle line of the face, and thence, after being directed upwards for a short distance, sweep backwards, frequently coming into contact with the surface of the forehead, and are then finally directed

forwards at the tip. The lower tusks have the same upwards-and-backwards direction as those of the upper jaw, but are frequently less strongly curved, although in other cases the direction of their sweep is not very different from that of the latter. The upper tusks occasionally attain a length of fourteen and one-half inches, exclusive of the portion buried in the socket.

It is a popular belief that pigs are never injured by the poisons of snakes; and it is customary to turn a drove of these animals into a district infested



SOUTH AFRICAN WILD HOG.

by such reptiles, which in a short time is usually completely cleared of them. It is well known that pigs will destroy any rattlesnake they meet with, and this serpent is certainly provided with one of the most deadly of poisons, and it is a reptile not at all likely to submit to an attack from any quarter without using all its powers of defense. It is supposed that the pig receives the bite of the enraged snake on its cheek, where the fat and

gristle are the thickest, and that, as there is little or no blood in that part, the poison is not carried through the system, so that the animal experiences no ill-effects from the virus. Whenever a serpent is spied, the pig, with erected bristles, rushes right upon it, and, indifferent to the formidable fangs that are perhaps sticking in its own hide, bites the reptile in pieces and then devours it.

I once witnessed a hunt for babirusa by the natives of Celibes.

The animals being driven into a curral with a V-shaped opening and flanked by netting, we had plenty of time to wait before the sport began, and meanwhile the natives arranged themselves at their posts. One stood at the door of the curral, ready to close it directly any animal rushed in; others took up their places on either side of the wide entrance, while the remainder crouched in front of the long net at intervals of a few yards, each grasping his spear, and hidden from view by a huge *Livistonia* (a kind of palm) frond. We had not long been settled before a peculiar barking grunt in the distance announced the arrival of the first victim. Everyone was instantly motionless, and directly afterwards a dark object dashed up at great speed and buried itself in the net a short way down the slope. There was a short struggle, and in less than five minutes the captive, a full-grown female babirusa, was quietly reposing on her back, with her legs tied together with rattan, and we were once more in ambush for the next comer. We were hardly quiet before the same peculiar sound was heard rapidly approaching, and the next moment a magnificent old boar babirusa rushed past within five yards of us, and plunged into the net between our tree and the entrance to the curral. His long tusks became entangled in the meshes, and the natives ran up to spear him. Just at this moment, however, he broke loose, and, turning on his antagonists, scattered them in all directions. It was a most determined charge, and, as we were unable to fire for fear of hitting some of our own men, it might have proved a serious affair for the native he singled out. After some trouble the animal was, however, finally despatched with a spear-thrust, but, even with four spears buried in his body, the old boar died game, striving to the very last to get at his antagonists.

THE PORCUPINE

A Nocturnal Animal Bristling with Long Spines—Will Not Run From a Foe—Rolls Itself In a Ball When Attacked—Cannot Throw Its Quills—Savages Use Quills As Decorations

The traveler in East Africa never sees one of the strangest inhabitants of the velt—the porcupine—unless he takes the trouble to dig for it, or is favored by good fortune. The explanation is a simple one. The habits of the porcupine are absolutely nocturnal. It spends the day in caves in the earth, from which it only issues at night, and into which it retreats before dawn. Plenty of quills were found by the American hunting expedition, but they never saw the animal itself at large. A few specimens were secured from the natives, who had dug them out of their burrows.

One of them told Mr. Roosevelt that it sometimes takes a whole day to secure one single specimen of this little shy and wary creature, whose burrows stretch from twenty-five to fifty yards deep in the ground.

Says a famous hunter :

I have a great deal of respect for the porcupine, and I have noticed that his fellow animals have a like feeling toward him. In the first place, he doesn't meddle with the affairs of others and he very quickly resents any attempt to meddle with his affairs. He rarely hunts for a fight and he never runs away from one. In all of the animal kingdom I do not believe there is a more fearless creature.

Conscious of his own powers of defense he seems to have a contempt for other animals. In Africa and India lions and leopards attack him and often kill him, but only after a hard fight, in which they receive many wounds, which sometimes prove fatal, from his long spines, called quills. In Western America I have known a mountain lion (puma) to die of wounds received in a fight with a porcupine. The wounds suppurated, causing blood-poisoning, resulting in death. The other animals know that the porcupine is not afraid of them and that he is always ready to fight—hence they respect him and usually leave him alone.

The porcupine has long been rendered famous among men by the extraordinary armory of pointed spears which it bears upon its back, and which it was formerly fabled to launch at its foes with fatal precision. This remarkable power of the rugged little creature has been thoroughly exploited and is attributable to a real fact, of which few writers take cognizance. When attacked the porcupine prepares for defense by rolling itself into a ball,

exposing the bristles, but with its feet ready for action. When the assailant has approached sufficiently near, the active little animal darts forward, hurling itself against the attacking animal. The spear-like quills find lodgement in the skin of the assailant, causing in every case a hasty retreat.

This animal inhabits many parts of the world, being found in Africa, Southern Europe and India. The spines, or quills, with which it is furnished, vary considerably in length, the longest quills being flexible and not capable of doing much harm to an opponent. Beneath these is a plentiful supply of shorter spines, from five to ten inches in length, which are the really effective weapons of this imposing array. Their hold on the skin is very slight, so that when they have been struck into a foe, they remain fixed in



PORCUPINES OF SIAM.

the wound, and, unless immediately removed, work sad woe to the sufferer. For the quill is so constructed that it gradually bores its way into the flesh, burrowing deeper at every movement, often causing the death of the wounded creature.

In Africa and India leopards and tigers have frequently been killed, in whose flesh were pieces of porcupine quills that had penetrated deeply into the body, and had even caused suppuration to take place. In one instance, a tiger was found to have his paws, ears and head filled with the spines of a porcupine, which he had been vainly endeavoring to kill.

As I have said, conscious of its powers, the porcupine is not at all an

aggressive animal, and seldom, if ever, makes an unprovoked attack. But if irritated or wounded, it becomes at once a very unpleasant antagonist, as it spreads out its bristles widely, and rapidly backs upon its opponent.

I have witnessed the successful defense of the animal on a number of occasions. Being one moonlight night with a party in search of porcupines with dogs, we had not been out long ere we discovered a hole inhabited by these quadrupeds. A dog was immediately put to it. The animal had not gone many paces, when he howled and retreated with several quills in his body. One in particular was driven an inch into his right leg. The porcupine, on the approach of the dog, drew itself into the shape of a ball, and, darting forward with all its strength, drove its quills into the dog. We were



PORCUPINES OF MOROCCO.

forced to give up the fight, and the porcupine saved his life by the desperate fight made against our dogs.

The total length of the common porcupine is about three feet six inches, the tail being about six inches long. Its gait is plantigrade, slow and clumsy, and as it walks its long quills shake and rattle in a very curious manner. Its muzzle is thick and heavy, and its eyes small and piglike.

The American Indians use the quills extracted from the Canada porcupine, a species living on trees, for ornamenting various parts of their dress, especially their moccasins or skin shoes. The length of this species is about two feet. It is found in many parts of the United States as well as in Canada.

It is capable of depressing the bristling spears, and can squeeze itself through an opening which would appear at first sight to be hardly large enough to permit the passage of an animal of only half its size.

When one of these animals has selected and settled himself in a tree to his liking, he may not leave it, day or night, until he has denuded it of the whole of its foliage. I have seen many hemlocks thus completely stripped, not a green twig remaining, even on the smallest bough. It seems incredible that so large and clumsy an animal should be able to climb out far enough on the branches of trees to reach the terminal leaves; but he distributes his weight by bringing several branches together, and then, with his powerful paws, bends back their ends and passes them through his mouth. When high in the tree-tops he is often passed unnoticed, mistaken, if seen at all, for the nest of a crow or a hawk.

The Mexican tree-porcupine belongs to a family which has hair so long as almost to conceal the spines. It is easily distinguished by the uniform black color of the fur, and also by the presence of numerous spiny bristles mingled with the hair of the lower parts of the body. These bristles arise in small clusters, and being white for the greater part of their length, form star-like spots among the dark fur. These bristles and the spines on the back are black at the tips.

This species inhabits the forests on the eastern coasts of Mexico. Nothing special is recorded of its habits; but from observations made on captive individuals it is probable that none of the tree-porcupines ever drink. It is stated that in those long-haired species in which the fur is of a grayish tint, the general appearance of the animal when reposing on the arm of a tree closely resembles a gnarled and lichen-clad knot.

The brush-tailed porcupine, of which one species inhabits Western and Central Africa, and the other Burma and the Malayan region, are much smaller and more rat-like animals than the true porcupines, from which they are distinguished at a glance.

A species of porcupine has been discovered in Borneo, distinguished by its short spines.

From the large size of their teeth and jaws, porcupines have great gnawing powers, and the writer has seen in India tusk of elephants which have been half-eaten by these animals as they lay in the jungles. The flesh of porcupines is excellent eating, and resembles something between pork and veal in flavor.



THE STORY OF THE WAPI.

On the Semliki River, near the borders of the great Congo forest, I first heard of and later saw one of the queerest animals in the known world. The natives called it the wapi, but a naturalist of the present day, who has learned much about it, has given it the name of okapi.

A little to the east end of the middle of Africa is a chain of lakes running nearly north and south. The great Lake Tanganyika is the southernmost, north of this is Lake Kivu, whose waters flow south into Tanganyika, and then passing over a high volcanic range we come to the lake known as the Albert Edward Nyanza, stretching northward from the shores of which are Mountains of the Moon, the Rewenzori range. Keeping in the valley to the west of this range the traveler passes along the Semliki River, whose waters flow northward, and eventually reaches the Albert Nyanza, the source of the Nile.

The region of the Semliki River is in many respects a most remarkable one. A few miles east from its banks are snow mountains 25,000 feet high. At no great distance on the west are sources of the Aruwimi, the great tributary of the Congo River. To its west, also, for hundreds of miles, stretch the northeastern extensions of the great Congo forest. Along the shores of the Semliki the British protectorate of Uganda and the Congo Free State meet one another. It is here that Stanley and I saw the distant

Rewrenzori range and heard from natives of the existence in the forest of a large quadruped, neither antelope nor zebra, and as large as a horse.

It is to this region that Sir Harry Johnston, High Commissioner of Uganda, traveled in the autumn of 1900 in order to explore the confines of his protectorate before returning home. Sir Harry is an ardent naturalist, a really great collector, an observer, and an artist. Many a new bird, beast and plant from Kilimanjaro, Nyassaland and Uganda do men of science owe to him. On the present occasion he was eager to obtain new things and was well equipped for the purpose and well provided with men. He has sent rich collections to the Natural History Museum as a result of this journey. He was especially anxious to see and if possible secure the enigmatical quadruped which I had reported to exist in these forests.

It must be borne in mind that the larger quadrupeds live in the open prairie or frequent only the borders of the African forests, and, further, that few of the natives excepting the peculiar dwarfs, the Akkas, penetrate far into the gloomy depths of these vast tree-grown regions. Sir Harry himself traveled for a week in the dark, steamy recesses of this equatorial forest. He describes the sense of mystery and oppression with which the solemn gloom, the choking heat, and strange silence filled him as well-nigh overpowering. It is not to be wondered at that the blacks avoid these primeval fastnesses.

It is among the trunks of these forests trees, whose foliage is densely woven overhead so as to exclude the light of day, that the strange animal of which Sir Harry was in search lives, coming here and there to "clearings" due to the decay and fall of the trees, in order to feed on the foliage.

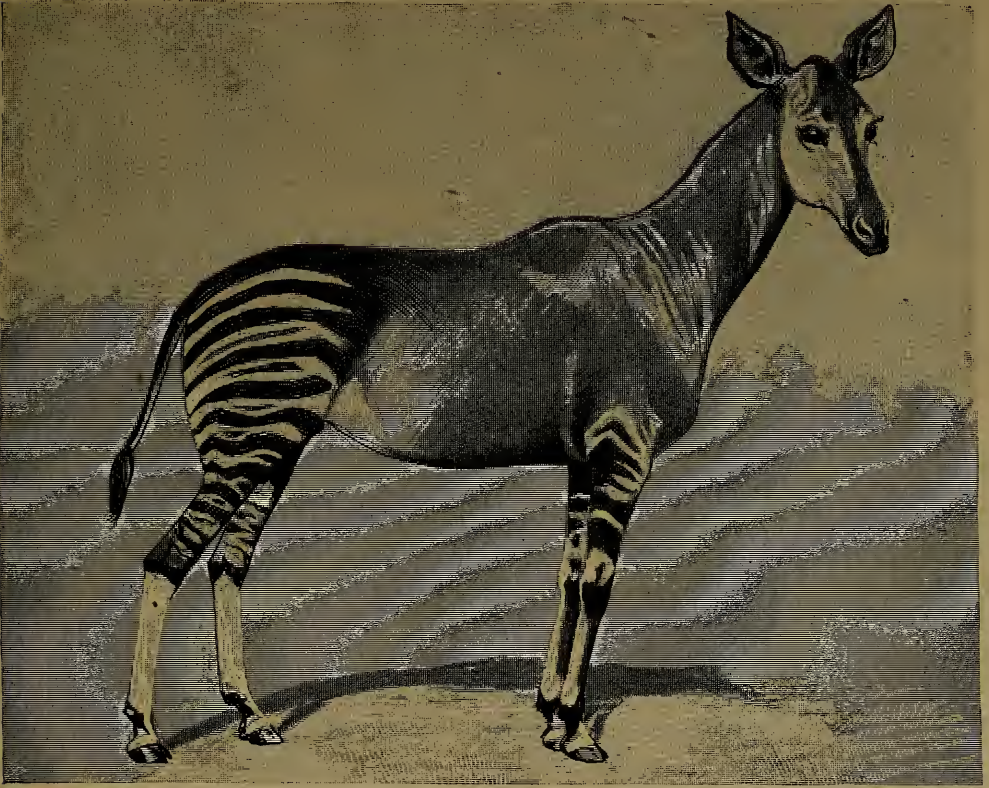
It might well be that this dark vapor-laden forest had persisted from remote geologic ages, and that strange animals, survivors of pliocene and miocene times, still harbored there unknown to man, unchanged, cut off from the struggles of the outer world.

Sir Harry failed to get a sight of the animal, but he obtained from natives two bands made from its skin, and learned that the animal was called by them "okapi." The pieces of skin had the hair preserved, and this was colored very dark brown and white in alternate bands, like the pelt of a zebra. They were sent home and were considered by Dr. P. L. Sclater, the secretary of the Zoological Society of London, to indicate a new kind of zebra, to which he gave the name *Equus Johnstoni*.

At a station of the Congo Free State, not far from the Semliki River, Sir Harry Johnston met the officer in charge, a Mr. Ericsson. This gentle-

man promised to do all in his power to obtain a specimen or specimens of the okapi for Sir Harry from the natives of his district. Some months later, when Sir Harry Johnston had returned to the more civilized portion of the Uganda protectorate, he received by messengers from Mr. Ericsson a complete skin, including the hoofs, and two skulls of the okapi.

One of the most remarkable facts in this story is that Sir Harry, with-



THE WAPI OR OKAPI.

out access to books and specimens for comparison, such as men of science have at their command in European museums, immediately determined with complete accuracy the nature of the okapi. He made—and has recently published—a sketch of the animal, showing it as he supposed, from the examination of skin and skull, it would have appeared when living. Its cloven hoofs showed that it was not of the zebra tribe, but related to

the antelopes and giraffes; and Sir Harry went so far as to say that it was a short-necked hornless giraffe—similar to the *Helladotherium*, the bones of which have been found at Pikermi, near Athens, and were reconstructed as a complete skeleton by Professor Gaudry, of Paris. Sir Harry suggested that the okapi must be considered as a living survival of that animal, and assigned it to the genus *Helladotherium*.

This was extraordinarily correct and sound reasoning. It has been abundantly confirmed by careful study of the specimen sent to London excepting that it has seemed necessary to separate the okapi, on account of some minor features in the structure of the skull, from *Helladotherium*. The okapi is now known as *Ocapia Johnstoni*.

Sir Harry Johnston at once dispatched the okapi's skin and two skulls to the Natural History Museum.

He rightly declared this to be the most remarkable discovery in the zoology of Africa made in the last hundred years.

The photographs here reproduced show the animal as set up by Mr. Ward and an enlarged view of the head. The shoulder is higher as compared with the rump than in Sir Harry's restoration, and the neck is somewhat longer than it seemed to him, and straight as is that of a giraffe. Probably the okapi, like the giraffe, carries its neck habitually sloping forward so as to give a continuous straight line from the back of the head to the root of the tail. A very interesting feature is the presence of two little tufts on the forehead, which correspond to and represent the horns of the giraffe, though they cannot themselves be called horns. An examination of the skulls of the okapi show that there is no bony outgrowth corresponding to these knobs, although the skull is raised on each side above the orbit into a small domelike eminence.

The coloring and marking of the hairy hide of the okapi is very peculiar. Its pattern is well shown in our illustration. The body is of a rich maroon-brown color.

The tract of forest inhabited by the okapi is about as big as the principality of Wales, and there may be some 2,000 or 3,000 head living there. It is undoubtedly a true inhabitant of the forest, elusive and difficult to discover. Probably we shall soon hear more of it and receive additional specimens, though it is not likely, on account of its frequenting the forest depths, to be threatened or exterminated by too eager sportsmen for long years to come.

THE AFRICAN JACKAL

The Ancestor of Our Dog—Hunts at Night—Harmless but Kills Chickens, Lambs, Rabbits and Small Antelopes.

In the stillness of the night the members of the American expedition of hunters and naturalists often heard near their camp on the African steppe the mournful voice of the jackal. It could still be heard in the early morning long after all other nocturnal marauders had retreated to their hiding places. The jackals are found everywhere on the velt, in daytime as well as at night, and are not only seen in company with the hyena, but they are sometimes also associated with the lion and the leopard, who, when these followers grow too familiar, or when other food is scarce, do not hesitate to turn on them and eat them.

The jackal is a cunning, wary animal and, in the fairy tales and fables of the tribes of the steppe, plays the same part which we have assigned to our "Reynard," the fox, being the embodiment of cunning, smartness and agility—the animal which outwits all the rest.

Several varieties of this beast are met with in different parts of the world.

In India lives a wolf-like creature called the jackal, which gives a peculiar wailing howl. As the animal is known to feed on dead bodies, the Anglo-Indian version of its howl is as follows: "Dead Hindoo! where, where, where!" The jackal has another howl or cry used only when in the vicinity of a tiger. I have heard both cries and they are the most peculiar that I can recall. There is a fable, religiously believed by the natives of India, that the jackal acts as a scout for the lion, and that the king of beasts shares the prey with his smaller friend. This took its origin from the fact that the lion, after eating his fill, leaves the remainder of the carcass, and the skulking jackal, finding it, makes his meal from the leavings.

The jackal is well known both as a prowler and a scavenger, in which capacity he is useful, and as a disturber of our midnight rest by his horrible yells, in which peculiarity he is to be looked upon as an unmitigated nuisance. He is mischievous, too, occasionally, and will commit havoc among poultry and young kids and lambs; but, as a general rule, he is a harmless, timid creature, and when animal food fails, he will take readily to vegetables. The jackal sometimes feeds on dead bodies, which it digs out of the shallow graves made by the natives, and I once came across, in the vicinity of a jungle village, the dead body of a child that had been unearthed by a jackal.

One of these would answer to its name, and was remarkable for the cleanliness of its habits, being particularly averse to getting its feet wet by rain, seeking during showers the shelter of the huts. As a rule, it never sat down on its haunches after the manner of a dog, but would lie at full length, with its nose resting between its fore-paws, and would generally select a sunny spot, where it lay blinking in the sunlight.

The black-backed jackal is a very distinct African species. The adults



THE EUROPEAN JACKAL.

of both sexes are brightly colored, the sides of the body being red, the limbs and the upper part of the tail reddish yellow; while the back of the body and the end of the tail are black. The individual hairs of the body are ringed with black and white or red and white, so as to produce a speckled appearance in the fur. The under parts of the body and the inner sides of the limbs are nearly white, the ears and part of the face being yellowish brown. This striking coloration occurs, however, only in the full-grown jackals, the fur

of the young being a uniform dusky brown. The dark band on the neck so often found in the common jackal is absent. The ears are very long.

This jackal is found both in the open country and in bush jungle. In the sandy regions on the shores of the Red Sea it is to be found frequently in the small thickets covering the banks of the ravines, which swarm with hares and pangolins, upon which the jackal feeds. At night it visits the villages of the natives, and in Somaliland it is stated to bite off the fat tails



ARABIAN WOLF JACKAL

of the sheep. In the Sudan it lives chiefly upon the smaller antelopes, mice, jerboas and other rodents.

The Asiatic jackals vary considerably in point of size, the length of the head and body varying from two to two and one-half feet. Its general color is a pale grayish, with a larger or smaller admixture of black on the upper parts. The under parts are paler, and the muzzle, ears and the outer sides of the limbs more so than the rest. The reddish brown hairs

of the tail have long black tips, thus forming a distinct black tip to the tail itself. The African variety is of rather larger size, with relatively longer ears; and the sides of the body are grayer. Occasionally yellow, black and white varieties of the jackal have been met with, the latter being true albinos.

The jackal ranges from the southeastern countries of Europe to India and Ceylon; thence it extends through Assam to Northern Pegu and the neighborhood of Mandalay, although it is much less common east of the Bay of Bengal than in India. In Northern Africa it inhabits Egypt and Abyssinia, and the districts to the north of the Sahara. In the Himalaya



JACKALS OF SIAM.

it ascends to from three to four thousand feet above the sea level. Throughout India it may be found indifferently in hilly or plain country, in forest or open districts, or in large cities.

Although jackals are frequently in the habit of going singly or in pairs, they often associate in packs, which may be of considerable size; these assemblages being more frequent at night than during the daytime. In India the jackal's wanderings are by no means confined to the night.

In extremely hot weather they appear to suffer much, and may be found either lying in the water, where they spend most of the day, or sneaking away therefrom, instead of being, as usual, hidden away in their holes.

THE MONKEY FAMILY

Roosevelt Bags a White-Tailed Colobus Monkey—Facts About This Curious Animal—
The Gorilla, the Chimpanzee and Other More or Less Manlike Apes—Africa the
Paradise of the Monkey.

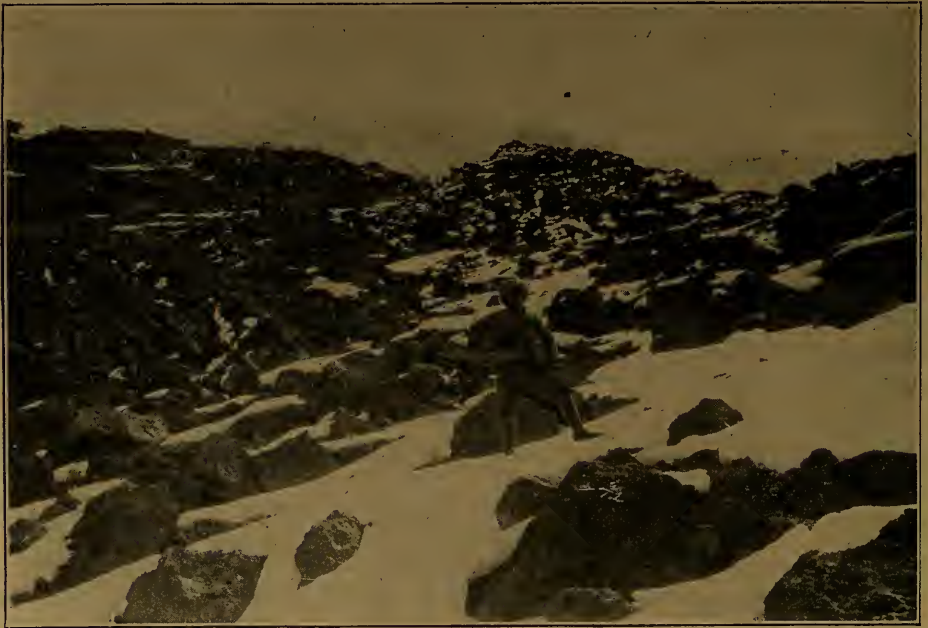
When in search for big game in the Sotik district around picturesque snow-capped Mount Kenia the American hunting expedition came across one of the most interesting varieties of the great family of monkeys—the colobus. Mounted on his faithful Tranquillity the Colonel was traversing the endless undulating expanses of grassy country, adorned by giant trees, which in this volcanic region meet the eye and now and then change into barren plains, grass-covered plateaus, and deep valleys wedged in between craggy ridges and naked rocks. He was in the beautiful Rift valley. Countless voices of the wilderness resounded around him. From all sides, from every spot, every direction came cries, mingled with curious chirpings of unknown birds, and loud-sounding trumpet-notes from brightly colored winged songsters break on the ear. The next moment every sound dies away and there is deathlike silence all around.

But suddenly there broke forth a remarkable sound, rising and again falling, as the ex-President listened, a strange music of a most peculiar kind. It was the chatter of the colobus monkeys, a sound that cannot be described in words. A party of these wonderful creatures seemed to be in good humor, for their song came to our hunter in chorus unceasingly, and in rising strength, now swelling strongly out, now quietly dying away. The Colonel selected a fine old male for the National Museum, and it tumbled down from the branches of a tall banana-palm, pierced through the brain by a swift rifle bullet, the whole herd precipitously set off at a scare and disappeared in the thicket, where they could no more be reached.

The white-tailed colobus, thus killed by Mr. Roosevelt, is one of the most interesting members of the monkey family. It is keenly hunted for the sake of its beautiful fur, and its peculiar song often betrays it to the hunter. It is shy and retiring, lives in the tops of high trees and feeds chiefly on leaves.

The colobus monkeys are large, black and white-colored animals with long and silky hair, and white brushy tails, their bearded faces having a serious and often sad expression. They are found in goodly numbers in the Mount Kenia region and in the dense forests of the Mera and Kilimanjaro mountain, the snow-clad roof of the African Continent. Our illustration shows the highest peak of this majestic mountain, which rises 20,000 feet above

the level of the sea, at which height it is devoid of any life owing to the fierceness of the active elements and the perpetual snow, although three degrees



From photograph.

MOUNT KILIMANJARO.

south of the equator. Another illustration represents five picked beauties of the inhabitants of the dense forests at the foot of the same mountain. The native members of Roosevelt's safari told him that these girls are given in marriage for two good milking cows and several jars of native beer made out of bananas, and wherewith the wedding is celebrated. "In our country," one of the bearers said, "a young man's pride is in having many wives—for they represent his wealth which they produce by working for him from sunrise to sundown."

It is in close proximity of these children of nature that the colobus monkeys are living. They can be seen feeding in the morning and evening, stripping the twigs of their leaves with their thumbless hands, eating greedily, and bellowing all the time. They are arboreal in their habits, living in small troops in the tops of gigantic trees, preferring those which are overgrown with beardgrass, the whitish-grey color of which blends with the fur of the monkeys. When the colobus jumps from branch to branch and from tree-top to treetop, extending the long, white tail and spreading the hair of the



From photograph.

COLOBUS MONKEY.

A SPECIMEN OF THIS ANIMAL WAS KILLED BY COL. ROOSEVELT IN RIFT VALLEY.

body, it looks as if the beardgrass were becoming alive and assuming animal form to escape into the darkness of the deeper forest.

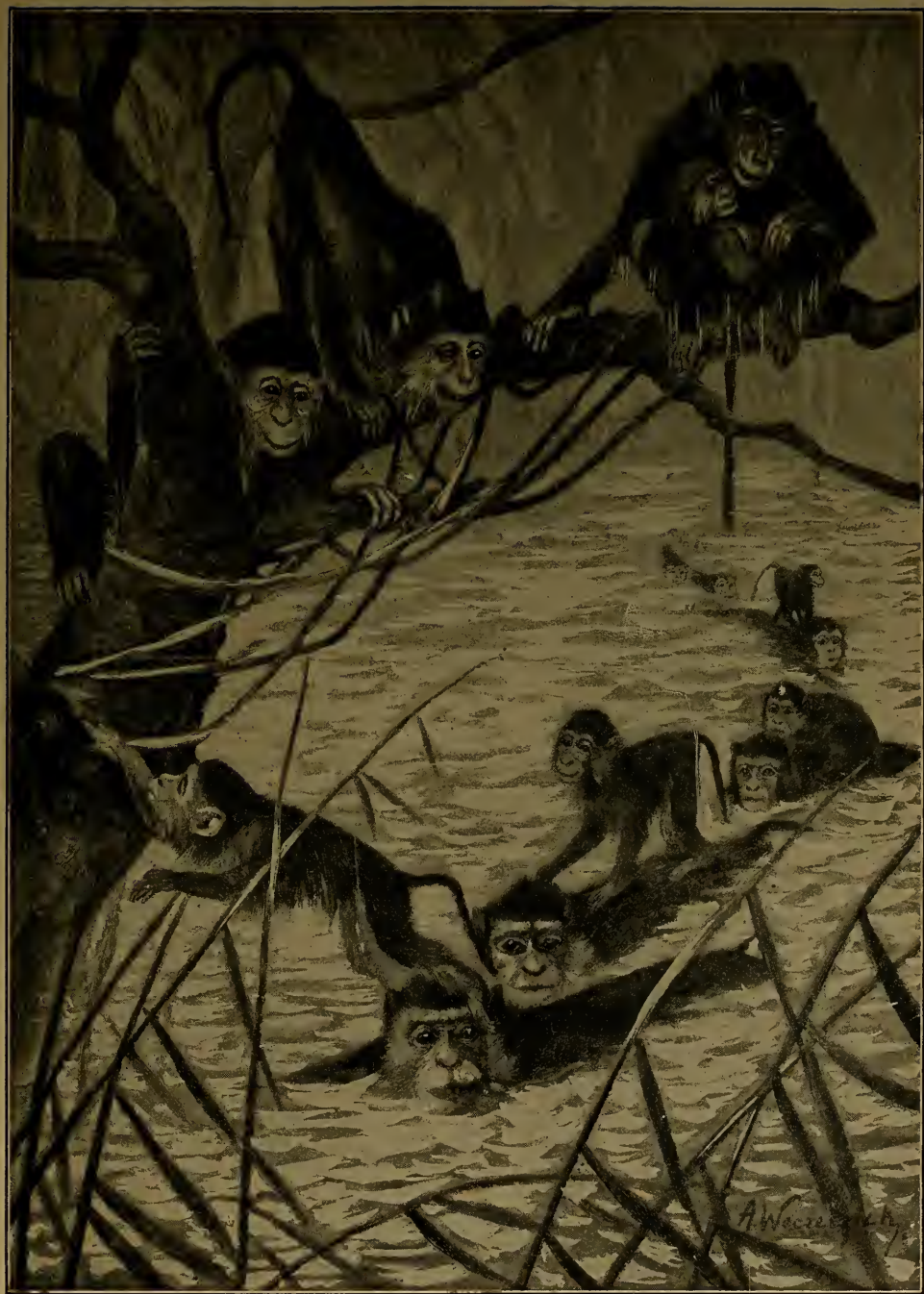
Mr. Roosevelt noticed that this tree monkey is not adapted to walking,



From a recent photograph.

FIVE BEAUTIES IN THE KILIMANJARO DISTRICT.

and is seldom seen on the ground. It need not even go to a river to quench its thirst, for it finds plenty of water stored up in the hollows of the trees. The colobus loves the solitude of the woods and is rarely seen near human habitations. Where it is not hunted, it is full of curiosity, and not over-shy. But its fur, unfortunately, is a much-desired article of trade, and therefore the animal is pursued and its numbers greatly diminished by European and native hunters, who armed with breech-loading rifles have almost exterminated it in many of its favorite haunts, so that a few years ago it took an experienced African hunter three days to secure three specimens for a



A MONKEY-BRIDGE. MONKEYS CROSSING A RIVER.

European museum. Our former President may, therefore, consider himself fortunate in having bagged one of these rare animals. In a not far distant future it, no doubt, will be too late, for the war of extermination has been carried on even to the remotest mountain forests to satisfy the demand for the fur of the colobus. An African traveler found hundreds of skins ready for shipment to Europe by Greek and Indian traders, where they are used as trimmings and linings of ladies' winter coats. A missionary told him that he himself had hunted eighty animals within a month to sell their fur, for which he received from one to two dollars apiece. While its fur was "in fashion" hundreds of thousands of the animals were exported to Europe to satisfy a passing fancy. Before the European invasion the natives hunted the colobus only because its fur was used by their warriors to adorn their ankles.

Now, when Mr. Roosevelt is shipping both living and dead African animals to the Smithsonian Institution and to zoological gardens in many of our big cities, it may be of interest to our readers to know that it has not always been possible to do so.

In former years young colobus monkeys were captured to be raised and sent to Europe, but none of the young animals reached their destination alive, says the famous African traveler. "I therefore," he continues, "decided to capture an adult colobus, and I succeeded in slightly wounding and in capturing an adult animal. For some time I supplied the monkey with his favorite food, fresh leaves and sprouts of the fugara. He refused any other nourishment. At last I coaxed him into taking bananas. I selected the strongest and most capable of my blacks to take care of the colobus on our march to the coast. It was a comical sight to observe the tall black fellow marching along, protecting with an improvised parasol his protege, who was tied to him by a leather strap. Once in awhile they would have a 'falling out.' The whole caravan then stopped and looked on, cheering and teasing until the bearer and his charge had 'made up' again. My troubles with the delicate creature were endless. It was not only hard to select suitable food for the monkey, but he occasionally showed symptoms of fever, which I counteracted by dosing him with quinine. At last I got him safely to the coast and transported him to Berlin, where he lived two years in the zoological gardens, before he fell a victim to the changed conditions of climate and food, and, no doubt, also to homesickness for his native woods." He further tells that on another occasion he brought with him three colobus monkeys

from East Africa to Europe, only one of which reached its destination, where, however, she died three days after her arrival.

The greatest shipment of wild animals direct from the velt and jungle of Africa is the gift of five lions, a leopard, and a number of other game, unloaded at Washington from the German steamer *Malkefels* a few days before Christmas and presented to the National Museum by former President Roosevelt. The work of unloading the beasts was a ticklish undertaking for the longshoremen, and a large crowd watched the operation.

The animals were presented to Colonel Roosevelt by an African ranchman, who captured them when they were young. The five lions and the leopard were shipped direct to Washington. The other animals, including two hartebeasts, two elands, one gazelle, one wart-hog, and one waterbuck, were taken to the Philadelphia zoological gardens, where they remained in quarantine for fifteen days, after which they were sent to the National Capital.

Previously several casks and cases had been shipped, containing skulls, bones, and skins of two impallas. We will now introduce some of the most interesting members of the monkey family to our readers.

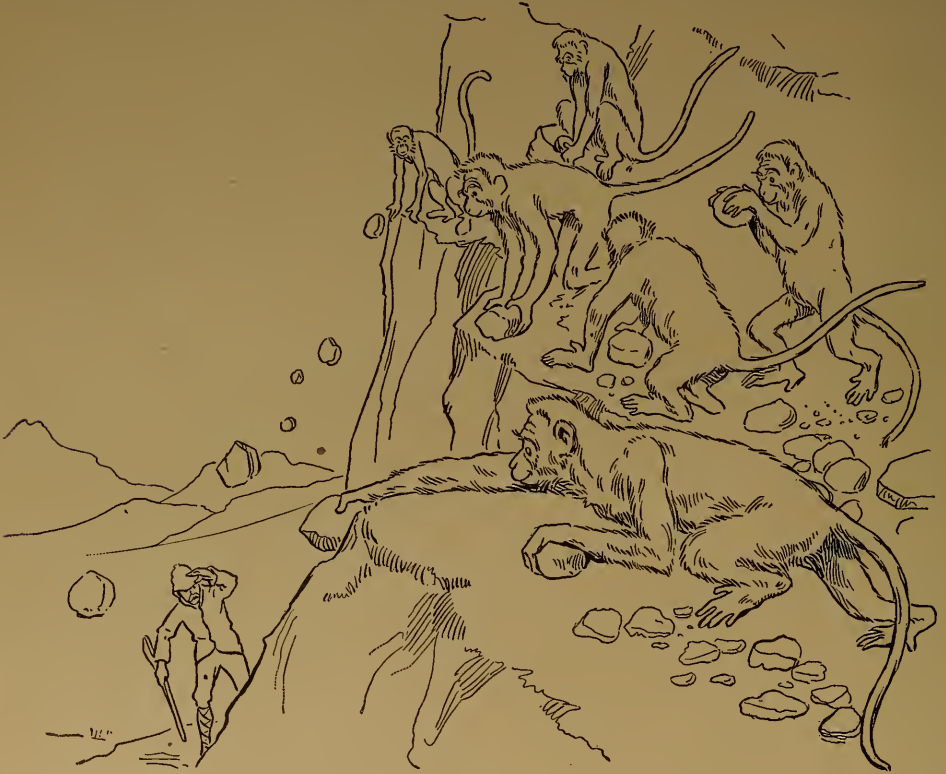
The proverb "mischievous as a monkey" reveals the estimation in which monkeys commonly are held. The more or less human-like form, the frequent tendency to assume an upright position, coupled with their hand-like feet are amply sufficient to distinguish the group to which these animals belong from all others.

The peculiar traits of the monkey, which have made this class of animals the most interesting to the children and a source of amusement to their elders, are an interesting study.

A neighbor of mine had a monkey of which he was very fond and the little pet used to love to sit on his master's shoulder. It showed, nevertheless, a great dislike to strangers, and was not on good terms with any other member of my friend's household. My neighbor had started from home one morning without taking the monkey with him, and the little creature having missed its friend, and concluded, as it seemed, that he would be sure to come to me, both being in the habit of paying me a daily visit together, came straight to my dwelling, taking a short cut over gardens, trees, and thickets, instead of going the roundabout way of the street. It had never done this before, and we knew the route it had taken only from a neighbor having watched its movements. On arriving at my house, and not finding its master, it climbed to the top of my table, and sat with an air of quiet resignation waiting for him. He failed to come, and after a wait

of several hours it returned home. Disappointed there it again came to me, and this time its master was there. The little creature was overjoyed and clung to him as a child would to its mother.

When at Malwa in Northern India, which is one of the lakes where I spent a day, I was warned that, in passing under a landslip which slopes down to the lake, I should be liable to have stones thrown at me by monkeys. Regarding this as being possibly a traveler's tale, I made a particular point



MONKEYS STONING MR. SEYMOUR.

of going to the spot in order to see what could have given rise to it. As I approached the base of the landslip on the north side of the lake, I saw a number of brown monkeys rush to the sides and across the top of the slip, and presently pieces of loosened stone and shale came tumbling down near where I stood. I fully satisfied myself that this was not merely accidental; for I distinctly saw one monkey industriously, with both forepaws, and with obvious malice, pushing the loose shingle off a shoulder of rock. I



LANGUR MONKEYS OF THE HIMALAYA MOUNTAINS.

then tried the effect of throwing stones at them, and this made them quite angry, and the number of fragments which they then set rolling was speedily doubled. This, though it does not actually amount to throwing or projecting an object by monkeys as a means of offense, comes very near to the

same thing, and makes me think that there may be truth in the stories of their throwing fruit at people from trees.

In confinement the monkey is generally docile, good-tempered and amenable to instruction. A specimen in a zoological garden was said to be a most importunate beggar; but instead of snatching the contributions of his visitors with violence or anger, like the generality of monkeys, he solicited them by tumbling, dancing, and a hundred other amusing tricks. He was very fond of being caressed, and would examine the hands of his friends with great gentleness and gravity, trying to pick out the little hairs, and all the while expressing his satisfaction by smacking his lips, and uttering a low surprised grunt.

Monkeys as a rule travel in bands in the wild state. The herds vary in number; some cannot include much less than from two hundred and fifty to three hundred monkeys of all ages. The old males usually take the lead when the troop is moving; some of them also bringing up the rear; others placing themselves on high rocks or bushes, and keeping a sharp lookout after enemies. A troop collected on a rocky crag presents a most singular appearance. Whenever they assemble in the evening every jutting rock, every little stone more prominent than the rest is occupied by a patriarch of the herd, who sits with gravity and watchfulness befitting his grizzled hair, waiting patiently for the march to begin anew. The females are mainly occupied in taking care of the young; the smaller monkeys amusing themselves by gamboling about. Occasionally, if a young monkey becomes too noisy, or interferes with the repose of his seniors, he "catches it" in most unmistakable style, and is dismissed with many cuffs, a wiser if not a better monkey.

Sometimes battles take place among the monkeys in the wild state, when it is surprising to witness the rapidity with which they will follow an offender down a stupendous precipice, or from the top of a lofty tree; tumbling one after another they descend hundreds of feet in a moment or two. The object of the popular wrath sometimes escapes, but in this event he is never permitted to return, becoming an exile. He often attaches himself to another group or band, where after a short probation he is received on good behavior. Should, however, the hapless member of the tribe be caught he is punished with death. The various troops rarely indulge in pitched battles with other bands, preferring to turn back in their course when their paths cross.

The member of the simian tribe with his natty red coat and twinkling

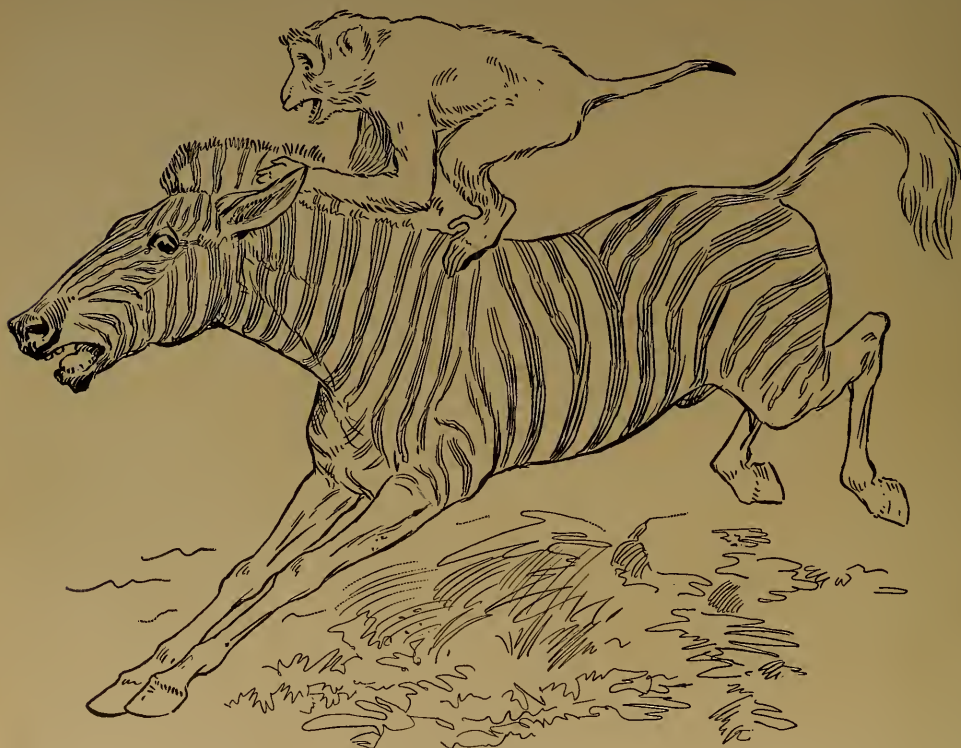


MACAQUE, OR BROWN MONKEY.

eye who is one-half the stock in trade of the organ grinder has been trained to do his part and does it faithfully. He is loyal to his master. An instance of this was shown when a highly prized monkey one day playfully climbed to the roof of his master's house. All efforts to induce him to come down were unavailing. Finally his master pointed a gun at him, but quite unsuc-

cessfully. Jack slipped over to the rear of the building. Another gun was procured and one was placed on each side of the house, when the monkey, seeing the fix he was in, sprang on the chimney, and hid in one of the flues, holding on by his forepaws. A fire soon brought him out and he meekly surrendered, coming to his master in an abashed and crestfallen manner.

With the exception of a few small species, such as the marmosets and the lemurs, the simians are not very pleasing animals in aspect or habits; while the larger apes and baboons are positively disgusting. The air of grotesque



A ROUGH RIDER IN AFRICA.

humanity that characterizes them is horribly suggestive of human idiocy. It is true that the naturalist learns to see wonder or beauty in all things of nature, and therefore looks with lively interest on the ape. But still, this creature is less pleasing in his sight than many others which may be not so highly developed; and in truth there are few who, if the choice lay between the two fates, would not prefer to suffer from the fangs and claws of the lion than from the teeth and hands of the ape.

Although these animals are capable of assuming a partially erect position, yet their habitual attitude is on all-fours. Even the most accomplished ape is but a bad walker when he discards the use of his two upper limbs, and trusts for support and progression to the hinder legs only. There are many dogs which can walk, after the manner of two-legged animals, with a firmer step and a more assured demeanor than the apes, although they do not so closely resemble the human figure.

On account of the structure of the limbs, the term "hand" is given to their extremities; but scarcely with perfect fitness. It must be borne in



A WHITE-NOSED MONKEY OF LIBERIA.

mind that the thumb is not always found on the fore extremities of these animals. In several kinds of monkeys the fore paws are destitute of effective thumbs, and the hand-like grasp is limited to the hinder feet. The so-called hands of the monkey tribes will not bear comparison with those of man. Although the thumb possesses great freedom of motion, and in many species can be opposed to the fingers in a manner resembling the hand of man, yet there is no intellectual power in the monkey hand; none of that characteristic contour which speaks of the glorious human soul so strongly that an

artist can sketch a single hand, and in that one member exhibit the individuality of its owner.

That monkeys, among the other characteristics which show a closer connecting link with the human species than is at all agreeable, should possess that love of seeing how near they can get to danger without being hurt, which finds a place in almost every man's breast, is especially odd, but none the less true.



HAVING FUN WITH A CROCODILE.

The rivers all through the kingdom of Siam abound with crocodiles in an extraordinary manner. These are tantalized daily by the monkeys, who annoy them in various ways. One day I was a witness to the monkey's love for frolic and the penalty sometimes paid. A large number of the agile little animals had gathered in a tree under which a crocodile was sunning in some shallow water. One after another the monkeys would drop to the lower branches, but careful not to approach too near the open jaws. Approaching

nearer and nearer the crocodile, and yelling at every effort the animal made to catch a stray leg or arm between his teeth.

The odd sport went on for a full hour, the monkeys growing more and more excited, and the crocodile never once losing his patience, probably well aware, from experience, that in the end he should be repaid for having so kindly lent himself to their amusement.



AN OLD HANUMAN APE.

At last an unlucky monkey slid down the trunk of the tree, passing unceremoniously over the heads and backs of his companions, evidently with the intention of taking the place of the one who occupied the post of danger near the water.

The whole crowd yelled and chattered louder than ever, and the crocodile's mouth opened wider, but he gave no other evidence of eagerness.

The monkey had nearly reached the bottom of the line when he made a misstep, lost his hold, and fell into the river.

There was one cry of agony, that was fairly human in its intensity, and the unhappy wight was dragged under the water. The crocodile and his victim had disappeared.

The chain was immediately broken, the monkeys flew up the tree in ter-



A GOOD TEMPERANCE LESSON.

rible haste, their merriment changed to doleful cries, and there they sat wringing their hands and bewailing the fate of their companion.

In Darfour and Sennaar the natives make a fermented beer of which the monkeys are very fond. Aware of this, the natives go to the parts of the forests frequented by the monkeys, and set on the ground calabashes full of the enticing liquor. As soon as a monkey sees and tastes it, he utters loud cries of joy, attracting his comrades. Then an orgie begins, and in a short time the beasts show all degrees of intoxication. Then the negroes appear.

The few monkeys who come too late to get fuddled escape. The drinkers are too far gone to distrust their captors, but apparently take them for larger species of their own genus. The negroes lay hold of one or two, and these immediately begin to weep and cover them with maudlin kisses. When a negro takes one by the hand to lead him off, the nearest monkey will cling to the one who thus finds a support and endeavor to go off also. Another will grasp at him, and thus in turn till the negro leads a staggering line of ten or a dozen tipsy monkeys.



A DOG-FACED BABOON.

THE UGLY BABOON.

With the true baboons we come to the most hideous and repulsive-looking members of the monkey tribe, their repulsive appearance being only equalled by the fierce and untamable disposition of several of the group. All the baboons are confined to Africa and the countries lying on the north of the Red Sea, so that they are totally absent from the Oriental region.

They are found over the whole of Africa; but, as is so generally the case, are represented by a greater variety on the west coast than elsewhere, and it is also in that region that the most hideous representatives of the group are to be found.

While agreeing with the gelada baboon in the great length of their snouts, the true baboons are readily distinguished by the nostrils being placed at the very extremity of their snout; indeed, in the Arabian baboon they actually project slightly beyond the upper lip, as is the case in most dogs. This canine form of countenance led the ancient Greeks and Romans to apply the name dog-headed to these animals. This great prolongation of the snout shows that the baboons are the lowest of the Old World monkeys, and they bear the most marked signs of relationship with the inferior orders of mammals.

In addition to their long snouts, baboons are likewise distinguished by the large proportionate size of their skulls, this being most markedly the case with some of the West African forms. Moreover, the bones forming the upper jaws are greatly inflated, so as to give a swollen look to this part of the face in some of the species. They may also carry prominent oblique ridges, which form the support for the peculiar fleshy tumor-like structures occurring in certain West African examples.

In all the baboons the callous places on the buttocks are unusually large, and may be very brightly colored. The tail is never very long, and often very short. The arms and legs, or, as they may be better termed, fore- and hind-legs, are nearly equal in length, and are thus far better adapted for progress on the ground than for climbing. Indeed none of the baboons appear to be adepts at climbing, and many of them pass almost their whole time on the ground. Several species of this group show an especial predilection for rocky ground, and are accustomed to go in large troops—this association being probably necessary for defence against the attacks of leopards and other flesh eating animals.

Their defence does not, however, rest solely on the strength of numbers; for the male baboons, which are considerably superior in size and strength to their consorts, are armed with tusks of the most formidable dimensions. Indeed, a bite from one of these animals must be almost, if not quite, as severe and dangerous as a leopard's; and there are instances on record where leopards have been successfully attacked and mastered by a few old male baboons.

The mandrill, which is the most conspicuous of the baboon tribe, is a

native of Guinea and Western Africa, and is chiefly remarkable for the vivid colors with which it is adorned. Its cheeks are of a brilliant blue, its muzzle of a bright scarlet, and a stripe of crimson runs along the center of its nose. These colors are agreeably contrasted by the purple hues of the hinder quarters. It lives principally in forests filled with brushwood, from which



A WHITE-HANDED GIBBON.

it makes incursions into the nearest villages, plundering them with impunity. On this account it is much dreaded by the natives, who feel themselves incapable of resisting its attacks. It is excessively ferocious, and easily excited to anger; and when enraged, so boundless is its rage, that I have seen several of these animals expire from the violence of their fury.

The greenish-brown color of the hair of this and other monkeys is caused by alternate bands of yellow and black, which exist on each hair. The brilliant colors referred to above belong to the skin, and fade away entirely after death.

The chacma, or bear baboon is remarkable chiefly for its ability in discovering water. When the water begins to run short, and the known fountains have failed, the chacma is deprived of water for a whole day, until it is furious with thirst. A long rope is then tied to the baboon's collar, and it is suffered to run about where it chooses.

First it runs forward a little, then stops; gets on its hind feet, and sniffs up the air especially taking notice of the wind and its direction. It will then, perhaps, change its course; and after running for some distance, take another observation. Presently it will spy out a blade of grass, or smaller object, pluck it up, turn it on all sides, smell it, and then go forward again. Thus the animal proceeds until it leads the party to water—guided by some mysterious instinct.

This species is an inhabitant of the countries bordering on the Red Sea littoral and the Upper Nile valley, but to reach its habitat we have to travel to the southern extremity of the African continent.

Like all the remaining representatives of the long-tailed baboons, the chacma differs from the Arabian baboon by the absence of the mane on the neck and shoulders of the males. We have, indeed, in this respect a gradual descending series from the gelada baboon, in which both sexes are maned, through the Arabian baboon, in which only the males are so ornamented, to the chacma, in which both males and females are maneless. In size the chacma is one of the largest of the group, and it has been compared in this respect, as well as in its bodily strength, with an English mastiff.

The doguera baboon is a closely allied species or variety, found in Abyssinia. It is of a more olive color than the sacred baboon. Dr. Anderson describes a male preserved in the museum at Calcutta as being of a uniform yellowish-olive color on the whiskers and all over the body, above and below, except on the hands and feet, which are nearly black. The coarse hair on the fore-part of the body is about six inches in length, and is ashy-grey in color for the first two inches, while the remainder is banded with nine rings of orange and black.

It was long thought that the yellow baboon, which takes its name from the pale brownish-yellow hue of the fur, came from Nubia and the Sudan; it is now known to occur on the west coast; but there is a baboon found in



THE MALBROOK, OR ORGAN GRINDER'S MONKEY.

the neighborhood of Kilima-Njaro, on the east coast, which is identified with this species. These baboons generally frequent the outlying parts of the plantations of the natives, subsisting largely on the maize and other products stolen therefrom. In certain localities they are extremely numerous, going about in troops composed of about fourteen individuals of both sexes and of all ages. They have but little fear of man, and instead of running away will turn round and face an intruder, with threatening gestures, at a distance of only a few yards. The natives are in the habit of driving them away from the crops, when the baboons retreat in a leisurely manner, with their cheek-pouches crammed full, and often dragging off some of the plunder in their hands.

There are few species of mammals that have given rise to more confusion in natural history literature than the Guinea baboon, of which examples have been described under at least two distinct names, and regarded as different species, though it is a well-ascertained fact that the common baboon belongs to one and the same species as the Guinea baboon.

The Guinea baboon is characterized by the uniformly reddish-brown color of its fur, which is washed with a yellowish tinge, more especially upon the head, shoulders, back, and limbs; the cheeks and throat being paler, and the whiskers fawn-colored. As in the chacma, the upper eyelids are white. The nose projects rather beyond the upper lip, but is somewhat less elongated than in the chacma, and has small swellings corresponding with those so enormously developed in the next species.

As its name indicates, it is an inhabitant of Guinea; and although, judging from the number of specimens that are imported into Europe, it must be common, there is no record of its habits and mode of life in a state of nature. Of those in a state of confinement there are, however, numerous accounts, the species being frequently carried about by itinerant showmen.

THE INTELLIGENT CHIMPANZEE.

The chimpanzee is a native of Western Africa, and is common on the banks of the Gambia and in Congo. It is also found on the peninsula of Malacca and several islands of the Indian ocean. Large bands of these formidable apes congregate together and unite in repelling an invader, which they do with such fury and courage that even the dreaded elephant and lion are driven from their haunts by their united efforts. They live principally on the ground, and, as the name imports, spend much of their

time in caves and under rocks. Their height is from four to five feet, but they are said not to reach this growth until nine or ten years of age.

That the chimpanzee was known in Europe as far back as 1598 is proved by an account brought back from the Congo by a Portuguese sailor, named Eduardo Lopez. In 1613 there appeared the history of the wanderings of an English sailor, named Andrew Battel, in the lower part of Guinea, in 1590, who appears to have heard of or seen, not only the chimpanzee,



THE CHIMPANZEE AND ITS HABITS.

which he designates the Enjocko, but likewise the gorilla, which he calls the pongo. Hence the name Jocko so generally given to individuals of the monkey tribe.

In captivity, chimpanzees, when in health, are gentle, intelligent, and affectionate, readily learning to feed themselves with a spoon, or to drink out of a glass or cup. Unfortunately, however, their span of life in this

country is but brief. The longest period that a chimpanzee has hitherto lived in a zoological garden at London is eight years; "Sally," who died in 1891, having been kept there for that time. The description by Dr. J. G. Romanes of the mental power of "Sally" is full of interest. This account was written after the creature had been nearly six years in the London Zoological Gardens. The intelligence of "Sally" is compared by Dr. Romanes to that of a child a few months before emerging from the period of infancy, and is thus far higher than that of any other mammal (exclusive of man). In spite, however, of this relatively high degree of intelligence, the creature's power of making vocal replies to her keepers, or those with whom she was brought into contact, were of the most limited kind. Such replies were, indeed, restricted to three peculiar grunting noises. One of these indicated assent or affirmation; another, of very similar intonation, denoted refusal or distrust; while the third, and totally different intonation, was used to express thanks or recognition of favors. In disposition "Sally" was, like many of her sex, apt to be capricious and uncertain; although, on the whole, she was good-humored and fond of her keepers, with whom she was never tired of a kind of bantering play.

It has always been a matter of surprise that no large man-like ape now inhabits the dense tropical forests of India or Burma, which would appear to be just as suitable for these creatures as are those of Borneo or Equatorial Africa. The discovery in India of a jaw of a large ape apparently belonging to the same genus as the chimpanzee shows us, however, that large man-like apes must have once roamed over the plains of India. Why chimpanzees, together with hippopotami and giraffes, which are likewise found fossil in India but are now confined to Africa, should have totally disappeared from the former country, is, however, one of those puzzling problems connected with the distribution of animals which we have but little hope of answering satisfactorily.

THE ORANG-OUTAN.

The Orang-outan inhabits Borneo and Sumatra. In Borneo there are two species of orang, called by the natives the Miaskassar and the Miaspappan. Some naturalists suppose that the Sumatran orang is also a distinct species.

This is the largest of all the apes, as it is said that orangs have been obtained from Borneo considerably above five feet in height. The strength of this animal is tremendous: a female snapped a strong spear asunder after

having received many severe wounds. Its arms are of extraordinary length, the hands reaching the ground when it stands erect. This length of arm is admirably adapted for climbing trees, on which it principally resides.

When young the orang-outan is very docile, and has been taught to make its own bed, and to handle a cup and saucer, or a spoon, with tolerable propriety. For the former occupation it proved itself particularly apt, as it not only laid its own bed-clothes smooth and comfortable, but exhibited much ingenuity in stealing blankets from other beds, which it added to its own. A young orang evinced extreme horror at the sight of a small tor-



YOUNG OURANG-OUTANS AT PLAY.

toise, and, when the reptile was introduced into its den, stood aghast in a most ludicrously terrified attitude, with its eyes intently fixed on the frightful object.

The orangs, like gorillas, go in small family parties, consisting of the parents accompanied frequently by from two to four young ones. Although they will devour leaves, buds, and young shoots,—more especially those of the bamboo,—the chief food of the orang consists of fruits of various kinds, the prime favorite being the luscious but ill-smelling durian or jack-fruit.

Of this fruit they waste a vast quantity, throwing the rejected rinds on the ground below.

THE ACROBATIC MONKEY.

The Agile Gibbon is a native of Sumatra. This species, too, is included in the man-like apes. It derives its name of Agile, from the wonderful activity it displays in launching itself through the air from branch to branch. One of these creatures, that was exhibited some time since, sprang with the greatest ease through distances of twelve and eighteen feet; and when apples or nuts were thrown to her while in the air, she would catch them without discontinuing her course. She kept up a succession of springs, hardly touching the branches in her progress, continually uttering a musical but almost deafening cry. She was very tame and gentle, and would permit herself to be touched or caressed. The height of the gibbon is about three feet, and the reach of the extended arms about six feet. The young gibbon is of a paler color than its parent.

THE LONG-NOSE MONKEY.

The kahau, or proboscis monkey, is a native of Borneo. It derives its name from the cry it utters, which is a repetition of the word "kahau." It is remarkable for the extraordinary size and shape of its nose, and the natives relate that while leaping it holds that organ with its paws, apparently to guard it against the branches. It is not an animal of very captivating appearance; but when it has been macerated in spirits of wine for a few months, its ugliness is quite supernatural. Naturalists formerly supposed that there were two species of this animal—the nose of one being aquiline and that of the other being slightly turned up. It was discovered, however, that the latter animal was only the young kahau, whose little nose had not reached its full beauty. The length of the animal from the head to the tip of the tail is about four feet four inches; and its general color is a sandy red, relieved by yellow cheeks and a yellow stripe over the shoulders.

THE SACRED MONKEYS OF INDIA.

The monkey called the Entellus is held sacred in some parts of India, particularly in Lower Bengal. The origin of the extreme veneration, which multitudes cherish for this animal, is involved in the obscurity of their early



SACRED APES OF INDIA.

history, and may be traced back to the most remote periods. Some years ago, a rajah spent 100,000 rupees in marrying two monkeys, with all the parade of a Hindoo wedding. The festivities on such an occasion always take place at night.

On the so-called marriage of the monkeys, there were seen in the pro-

cession, elephants, camels, horses, richly caparisoned, palanquins, flambeaux, and lamps. The male monkey was fastened in a gaily-decked palanquin, having a crown on his head, with men standing by his side to fan him, as they would a human being. Then followed singing and dancing girls in carriages, and for twelve days the festivities were carried on at the monkey palace.

THE MARMOSET.



MARMOSET TEARING PICTURES OF BUGS OUT OF A BOOK AND EATING THEM.

The marmoset is a most interesting little creature. It is exceedingly sensitive to cold, and when out of its own country is usually occupied in nestling among the materials for its bed, which it heaps up in one corner and out of which it seldom entirely emerges. It will eat almost any article of food, but is especially fond of insects, which it dispatches in a very adroit manner. It will also eat fruits, especially those of its native country. Its fondness for insects has been carried so far that it has been known to pinch out the figures of beetles in books and swallow them.



STORY OF THE GORILLA.

The gorilla, an enormous ape from Western Africa, is the largest member of the monkey family, but others have a much greater resemblance to man and have many human characteristics wanting in the gorilla. Of the man-like apes, the chimpanzee is the largest and most commonly known. Next comes the orang-outan, which frequently attains a height of over five feet. The gibbon is a small, active simian, and has the peculiarity of great cleanliness; the mother washing her offspring's face several times daily in spite of the struggles and screams of the young. Others are the marmoset, lemurs, the spider-monkeys.

A great deal of nonsense has been written about the impossibility of man being descended from the chimpanzee, a gorilla, or an orang. No one, however, who knows what he is talking about, can ever suppose for a single moment that such was the case. What zoologists do contend for is that, supposing some kind of evolution to be true explanation of the origin of animals,—and all the available evidence indicates that it is so,—man is so intimately connected, so far as his bodily structure is concerned, with the higher apes that, in this respect at least, he cannot but be considered to have had a similar origin. And on this view both man and the man-like apes are regarded as diverging branches descended from a common ancestor,—“the

missing link,"—long since extinct, and as much unlike any living ape, as such apes are unlike man himself.

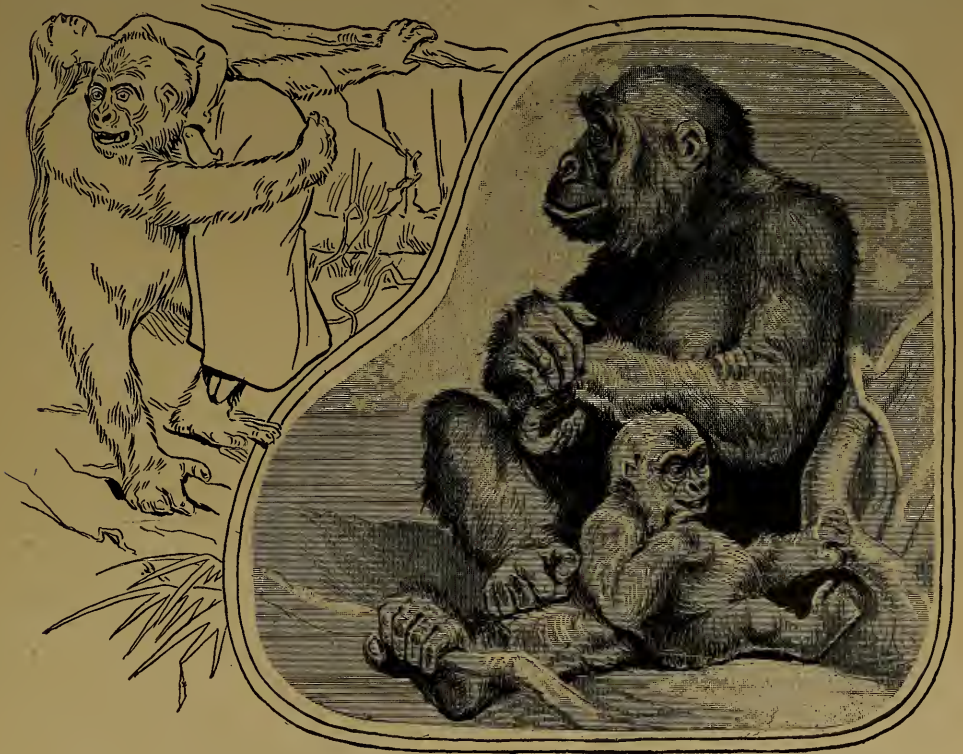
That the higher apes are closely related in their bodily structure to man is obvious to all, and it is a fact that the differences between some of these apes and man are of far less importance than those by which the lower monkeys are separated from the higher apes. It has, indeed, been attempted to show that apes and monkeys are sharply distinguished from man by the circumstance that while man is two-handed, apes and monkeys are four-handed. The difference between the foot of one of the larger apes and that of man is, however, merely one of degree, and is much less than that between the apes and the lowest representatives of the order.

Most of the monkey tribe are inhabitants of forest regions. Aided by their hand-like feet, all of them are expert climbers, and many, like the oriental gibbons and the South American spider-monkeys, but rarely leave the trees, leaping from bough to bough, and thus from tree to tree, far above the heads of the travelers below, to whom their presence is made known only by their continual howling or chattering. The climbing powers of the South American monkeys are largely aided by their prehensile tails, which serve the purpose of a fifth limb. Owing to the warmth of the regions in which most of them dwell, monkeys never hibernate. Contrary, however, to what is often supposed to be the case, several of the smaller species are expert swimmers, and will fearlessly cross comparatively large rivers.

When the human skeleton is contrasted with that of the ape the size of the ape's forearm is the most striking point of difference. Next comes the shape of the skull and the ring of bone surrounding the sockets of the eyes. The number of teeth differs in the various species. In the very young the resemblance to man is much greater than in the adult ape.

Dr. Robert Hartmann, of Berlin, who has devoted much attention to the man-like apes, observes that "in the gorilla, the chimpanzee, and the orang-utan, the outer form is subject to modifications, according to the age and sex. The difference between the sexes is most strongly marked in the gorilla, and these differences are least apparent in the gibbons. When a young male gorilla is compared with an aged animal of the same species we are almost tempted to believe that we have to do with two entirely different creatures. While the young male still shows a resemblance to the human structure, and develops in its bodily habits the same qualities which generally characterize the short-tailed apes of the Old World, with the exception of the baboon, the aged male is otherwise formed. In the latter case the

points of resemblance to the human type are far fewer; the aged animal has become a gigantic ape, retaining indeed, in the structure of his hands and feet, the characteristics of his kind, while the protruding head is something between the muzzle of the baboon, the bear, and the boar. Simultaneously with these remarkable alterations of the outer structure there occurs a change of the skeleton. The skull of an aged male gorilla becomes more projecting at the muzzle, and the dog teeth have almost attained the length



GORILLA AND YOUNG.

of those of lions and tigers. On the upper part of the skull, which is rounded in youth, great bony crests are developed on the crown of the head and on the forehead. The arches above the eye-sockets are covered with wrinkled skin, and the already savage and indeed revolting appearance of the gorilla is thereby increased."

Natural history is indebted to Paul Du Chaillu, the African traveler and explorer, for its first definite knowledge of the gorilla.

A full-grown male, if standing in a perfectly upright position, will generally measure rather more than six feet in height; and since his body is much more bulky, and his limbs are longer than those of a man, he is considerably the largest representative of his kind. As in the chimpanzee, there are distinct eyebrows on the forehead and lashes to the lids of the eyes. The nose has a relatively long bridge, and its extremity is high, conical, and widely expanded. The upper lip is remarkable for its shortness; and the whole of the dark skin in the region of the nose, cheeks, and mouth is marked by a number of wrinkled folds. The massive jaws are extremely projecting, and with their huge tusks, or dog teeth, complete the repulsive aspect imparted to the expression by the overhanging eyebrows. The ears are comparatively small and appear to be fastened above and behind to the sides of the face. The head is joined to the trunk by a very short and thick neck, which gives the appearance of its being set into the shoulders; and the term "bull-necked" is therefore strictly applicable to the creature. This great thickness and power of the neck is largely due to the backward projection of the skull, and the tall spines surmounting the vertebra of the neck. The muscles of the shoulders and chest are equally powerful, as is essential for the movements of the mighty arms.

Although when driven to close quarters the gorilla is doubtless one of the most terrible of foes, yet it appears certain that very exaggerated accounts have been given of the natural ferocity. Herr von Koppenfels informs us that so "long as the gorilla is unmolested he does not attack men; and, indeed, rather avoids the encounter." And when these creatures catch sight of men, they generally rush off precipitately in the opposite direction through the underwood, giving vent at the same time to peculiar guttural cries. It appears that many gorillas are killed by the natives with the aid of a weighted spear suspended by a cunningly devised system of cords in the creature's path. Others are, however, undoubtedly shot by the negroes, although it would seem that, at least in many instances, such animals have been accidentally met by the hunters as they travelled through the forest rather than deliberately sought out and tracked.



THE STORY OF THE LEMUR.

So many people mistake lemurs for monkeys, that I have decided to speak at some length of the former animals. The resemblance between lemurs and monkeys is so strong that it is difficult to explain in a popular work the exact difference without treating of the anatomy, the physical construction of both. This I do not propose to do, but will try to make it clear in other ways.

The first point of difference is to be noticed in the foxy, but expressionless faces of the lemurs, indicating that they are of a much lower order of intelligence than apes and monkeys.

Many lemurs are purely night animals, and it was probably from this circumstance, coupled with their silent habits and stealthy movements, that Linnæus was induced to give them the name which they are now universally known. The name lemur is taken from the Latin term *lemures*, which, together with that of *larvæ*, was applied by the ancient Romans to such spirits of the dead as were supposed to be of malignant natures.

Altogether, there are about fifty species of lemur-like animals. They are all restricted not only to the Old World, but also to the southern regions of the great land masses of that hemisphere, none of them being

found to the northward of the tropic of Cancer, while the tropic of Capricorn very nearly limits their southward range. Within this area a few species are found respectively throughout the warmer regions of Africa, and in Southern India and Ceylon, while their eastern limits are marked by the island of Celebes and the Philippines. In all these regions the number of species is comparatively few, and they form but an unimportant element in the general animal family of the country. The case is, however, very different in the great island of Madagascar, which is the headquarters of the whole group. Here we find them constituting no less than one-half the animals of the island, most of the others being small forms, unknown either on the continent of Africa or in Asia. The true lemurs occur only in Madagascar, and it is very remarkable that all the species of the group found in that island scarcely show any closer relationship to those of the African mainland than they exhibit to those of Asia. So abundant, indeed, are lemurs in Madagascar that at least one individual is almost sure to be found in every little copse throughout the island.

It will be evident that such a numerous population of helpless animals like lemurs could not exist in a land overrun with large flesh-eating animals; and in the whole of Madagascar we find only a few civets and an allied creature known as the fossa. Now to account for these peculiar features—the absence of all large flesh-eaters, except civets, and the abundance of lemurs—we have to call in the aid of the geologist. He will tell us that lemur-like animals, accompanied by civet-like animals, existed in England, France, and other parts of Europe during the early part of the Tertiary period. And we are accordingly led to conclude that the lemurs and civets of Madagascar obtained an entrance into that island, doubtless by way of Africa, at a time when that continent was still free from the presence of the large flesh-eating animals and the host of hoofed creatures, which now form such a dominant feature in its animal population. After the lemurs and civets had obtained an entrance into Madagascar that country became separated from the adjacent mainland, and it has remained as an island ever since. There, secure from molestation, the lemurs have attained a development unequalled at any time in any part of the globe, and afford us an admirable instance of the importance a group of animals may attain when living under favorable conditions.

We have already said that many lemurs are essentially nocturnal creatures. To this we may add that they are all of essentially tree frequenting in their habits. Indeed, except when compelled to descend to the ground to

obtain water, or for the purpose of crossing from one plantation or coppice to another, they but rarely leave the trees. Their diet is extremely mixed, scarcely anything coming amiss to them, as will be inferred when we mention that leaves, fruits, insects, reptiles, birds' eggs, and birds themselves are eagerly consumed by most of these animals.

By the natives of Madagascar the lemurs are looked upon with suspicious awe, and are consequently but seldom molested. This is doubtless due to



THE RUFFED LEMUR.

their nocturnal habits and ghost-like movements; while the large eyes essential to these and all other nocturnal creatures have perhaps contributed to this feeling. In Ceylon and India the large glaring eyes of one of the prettiest of the lemurs used to lead to the unfortunate creatures being put to a cruel death. None of the lemurs attain any very large size, and all of them, when unmolested, are perfectly harmless and inoffensive animals, except to the birds, reptiles, and insects upon which they prey.

The largest of the true lemurs is known as the ruffed lemur. It inhabits the Northeast Coast of Madagascar, and as its name indicates, is remarkable for the variety of color of its fur. Frequently this is a mixture of black and white, disposed in patches on different parts of the body, but occasionally white individuals are met with; others are a reddish brown.

The red-fronted lemur is met with in all parts of the island; the white-fronted is found on the Northeast Coast and the black-fronted on the Northwest Coast. Besides these there are the Mongoose lemur of the Western Coast, the black lemur of the Northwest Coast, the gentle lemur of the jungles, the weasel lemur of Northwest Madagascar and the mouse lemur of which there are many varieties.

One of the most interesting of all is the little creature known as the dwarf mouse lemur, but often referred to as the Madagascar rat. The head and body of this diminutive creature do not exceed 4 inches in-length, while the tail measures 6 inches. The prevailing color is a pale grey; the chin and under-parts being pale yellow, and the outer surface of the ears light brown, while a white streak runs up the nose and between the eyes. The eyes themselves are surrounded by black rims, giving to the face the appearance of wearing a pair of spectacles.

The dwarf mouse lemur builds beautifully constructed nests of twigs, lined with hair, in the tops of the lofty trees where it delights to dwell. These nests somewhat resemble those of a rook both in form and size, and are used not only as daily resting-places but as cradles for the young. The species is remarkable for the extreme beauty of its brilliant eyes.

The dwarf lemurs inhabit a belt of forest-land stretching from the eastern forest into the heart of Betsileo, a few miles north of Fianarantsoa, where they are tolerably abundant. They live on the tops of the highest trees, choosing invariably the smallest branches, where they collect a quantity of dried leaves, and make what looks from below like a bird's nest. So close is the resemblance, that it requires good eyes to distinguish the one from the other. Their food consists of fruit and insects, and most probably honey. I have frequently seen them catching the flies that have entered their cage for the honey; and I have supplied them with moths and butterflies, which they have devoured with avidity. They are extremely shy and wild. Although I have had between thirty and forty caged at different times, I have never succeeded in taming one. They are also very quarrelsome, and fight very fiercely, uttering a most piercing, penetrating sound, somewhat resembling a very shrill whistle.

The best known African lemurs are called galagos. With the exception of a kind from the West Coast, the great, or thick-tailed galago, of Mozambique and the Lower Zambesi Valley, is the largest of all the species. This animal is about the size of a cat of average dimensions; and, indeed, the peculiar manner in which it carries its thick bushy tail high above its back is highly suggestive of a pampered Persian cat. This bushy tail is about one-fourth longer than the head and body. The ears are unusually long.

It is confined to the maritime region, so far as I know never penetrating beyond the band of wood generally known as the mangrove forest. By the Portuguese it is named "rat of the cocoanut palm," that being its favorite haunt by day, nestling among the fronds; but if it be disturbed, performing feats of agility, and darting from one palm to another. It will spring with great rapidity, adhering to any-object as if it were a lump of wet clay. It has one failing, otherwise its capture would be no easy task. Should a pot of palm-wine be left on the tree, the creature drinks to excess, comes down, and rushes about intoxicated. In captivity they are mild; during the day remaining either rolled up in a ball, or perched half asleep, with ears stowed away like a beetle's wing under its hard and ornamented case. I had half a dozen squirrels with one in the same cage; these were good friends, the latter creeping under the galago's soft fur and falling asleep. On introducing a few specimens of (elephant) shrew, the galago seized one and bit off its tail, which however, it did not eat. The food it took was biscuit, rice, orange, banana, guava, and a little cooked meat. Stupid during the day, it became active at night, or just after darkness set in. The rapidity and length of its leaps, which were absolutely noiseless, must give great facilities to its capturing live prey. I never knew it give a loud call, but it would often make a low, chattering noise. It had been observed at the Luabo mouth of the Zambesi, at Quillimane, and at Mozambique. When I had my live specimen at Zanzibar, the natives did not seem to recognize it; nevertheless, it may be abundant on the mainland.

In the warmer parts of Asia is found the slow lemur or loris. The name loris, by which all the slow lemurs are commonly known, is derived from the Dutch word *Loeris*, meaning a clown, and appears to have been applied to these animals by the Dutch colonists of the East Indian Islands. To the natives of India the slow loris is known either by the name Sharmin-di billi, "bashful cat," or Lajjar banar, "bashful monkey." It is an animal about the size of a cat; different individuals or races varying considerably in size, so that while some specimens do not measure more than 13 inches in total

length, others may reach as much as 15 inches, or even more. Its proportions are thick and clumsy; the head being broad and flat, with a slightly projecting and pointed muzzle. The large eyes are perfectly circular, and their pupils can be completely closed by the gradual contraction of the iris, which open from above and below, so that when the pupil is half concealed it takes the form of a transverse slit. The ears are short, rounded, and partly buried in the fur; and are, thus, very different from those of the galagos. The hind-limbs are only slightly longer than the others. With the exception of the muzzle and the hands and feet, the whole of the body is covered with a thick coat of very close and somewhat long woolly fur.

In the more common and larger variety, the color of the fur is ashy-grey above, tending to become silvery along the sides of the back, the under-parts being lighter, and the rump often having a tinge of red. The stripe on the back is chestnut-colored, and stops short at the hinder part of the crown of the head. The eyes are, however, surrounded by dark rims; between which is the white streak extending upwards from the nose. The ears, together with a small surrounding area, are brown.

The slow loris is found over a large area in the countries lying to the eastward of the Bay of Bengal. It occurs on the northeast frontier of India in the provinces of Sylhet and Assam, whence it extends southwards into Burma, Tenasserim, and the Malay Peninsula; while it is also found in Siam and Cochin China, and the islands of Sumatra, Java and Borneo.

Its food consists of leaves and young shoots of trees, as well as fruits, various kinds of insects, birds, and their eggs. It has been observed to stand nearly erect upon its feet, and from this advantageous position pounce upon an insect. It is generally silent, although sometimes uttering a low crackling sound; but when enraged, and especially if about to bite, it gives a kind of fierce growl. This animal is tolerably common in the Tenasserim provinces and Arakan; but, being strictly nightly in its habits, is seldom seen. It inhabits the densest forests, and never by choice leaves the trees. Its movements are slow, but it climbs readily, and grasps with great tenacity. If placed on the ground, it can proceed, if frightened, in a wavering kind of trot, the limbs placed at right angles. It sleeps rolled up in a ball, its head and hands buried between its thighs, and wakes up at the dusk of evening to commence its nocturnal rambles. The female bears but one young at a time. Many accounts have been published of the habits of the slow loris in confinement. While these creatures are apt to be fierce when first captured,

they soon become docile. They are very susceptible to cold, and when so affected are apt to be fractious and petulant.

I once had a tame loris which was especially fond of plantains, also partial to small birds, which, when put into his cage, he killed speedily; and, plucking the feathers off with the skill of a poulterer, soon lodged the carcass in his stomach. He ate the bones as well as the flesh; and though birds, and mice perhaps, were his favorite food, he ate other meat very readily, especially when quite fresh; if boiled, or otherwise cooked, he would not taste it. He preferred veal to all other kinds of butcher's meat; eggs, also, he was fond of, and sugar was especially grateful to his palate; he likewise ate gum-arabic. As flesh was not always to be had quite fresh, he was for some time fed upon bread sopped in water, and sprinkled with sugar; this he ate readily, and seemed to relish it. When food was presented to him, if hungry, he seized it with both hands, and, letting go with his right, held it with his left all the time he was eating. Frequently, when feeding, he grasped the bars in the upper part of his cage with his hind paws, and hung inverted, appearing very much intent upon the food he held in his left hand. He was exceedingly fond of oranges; but, when they were at all hard he seemed very much puzzled how to extract the juice. I have, upon such an occasion, seen him lie all his length upon his back, in the bottom of the cage, and, firmly grasping the piece of orange in both hands, squeeze the juice into his mouth. He generally sat upon his hind part (the hair of which was much worn by long sitting), close to the bars of his cage, grasping them firmly with his hind paws; he then rolled himself up like a ball, with his head in his breast, his thighs closely placed over his belly, and his arms over his head, generally grasping the bars of the cage with his hands also. In this position, and also without moving, he remains the whole day. Upon coming into the Channel, the cold weather affected him very much; he was seized with cramp, and I at that time placed him in a small box, which was filled with very soft down. This he felt so agreeable that, when cold, he never left it during the whole day, unless disturbed, and slept in it rolled up in the shape of a ball.

His temper, in cold weather especially, was very quick; but, in general, he was rather timid, and never offered any injury unless incautiously touched, teased, or provoked; he then made a shrill, plaintive cry, evidently expressive of much annoyance, and would bite very sharply.



THE STORY OF THE MOLE.

One morning, after a rain, I traced the fresh passageway of a mole for one hundred yards. The little animal had made this gallery in one night.

I was impressed with the enormous amount of work such a small animal could perform, and I made some figures in comparison with the labor of a man. My figures showed, that in proportion to size, a man would have to dig in a single night a tunnel seven miles long and of sufficient size to easily admit his body in order to perform equivalent work to this mole. I think, therefore, that I am right in the conclusion that the mole is the most indefatigable worker of the burrowing animals to be found in the United States.

Æsop in his fables makes frequent reference to the mole, but he was not a close student of its habits, for he maligned the little creature by saying it had no eyes and that it had been condemned to spend its life under ground. The mole does live underground, but does so from choice, and so far from being a miserable animal, it seems to enjoy its life quite as much as any other creature. It is beautifully fitted for the station which it fills, and would be unhappy if removed from its accustomed damp and darkness into warmth and light.

The eyes of the mole are very small, in order to prevent them from being injured by the earth through which the animal makes its way; indeed larger eyes would be useless underground. When, however, the mole requires to use its eyes, it can bring them forward from the mass of fur which conceals and protects them when not in use. The acute ears and delicate sense of smell in the meantime supply the place of eyes. Its fur is very fine, soft, capable of turning in any direction, and will not retain a particle of mold.

But the most extraordinary part of the mole is the paw or hand with which it digs. The two fore-paws are composed of five fingers, armed with sharp, strong nails, in order to scrape up the earth; and to prevent the accumulated mold from impeding the mole's progress, the hands are turned outwardly, so as to throw the earth out of its way.

Although each mole has its own hunting ground, yet there are mostly high roads which connect the different hunting grounds with each other, and which are used by many individuals in common, the only precaution taken being, that if two moles should happen to meet, the weaker immediately retreats into one of the numerous side galleries which open from the high road, and permits its aristocratical neighbor to pass.

The common web-footed mole doubtless received its name on account of its webbed hind-feet, which led to the very natural inference that it was a swimming animal. But this is a complete misnomer, for not only is this mole not known voluntarily to swim, but in the selection of its haunts it shows no preference for the vicinity of water, but manifests rather a contrary tendency. Its home is underground, and its entire life is spent beneath the surface. The nest of this mole is commonly half a foot or more below the surface, and from it several passages lead away in the direction of its favorite foraging-grounds. These primary passages gradually approach the surface, and finally become continuous with, or open into, an ever-increasing multitude of tortuous galleries, which wind about in every direction, and sometimes come so near the surface as barely to escape opening upon it, while at other times they are several inches deep. Along the most superficial of these horizontal burrows the earth is actually thrown up in the form of long ridges, by which the animal's progress can be traced. The distance that they can thus travel in a given time is almost incredible.

The dwelling place is usually placed near a hillock or between trees and consists of a central chamber with passages conducting to two circular galleries placed one above another. The higher of these two galleries has

a smaller diameter than the lower one. From the larger lower gallery there are given off several diverging runs, one of which is larger than either of the others, and is known as the main run, being the one which alone leads to the burrows driven in various directions for the purpose of procuring food. These burrows, or runs, except when so close to the surface as to allow of the earth being raised directly upwards in the form of a ridge showing their course, are marked at intervals by the well-known "mole-hills," which are mounds of loose earth pushed up from below, and not containing any internal chamber or passages.

Since the voracity of the mole is proverbial, and its food consists exclu-



THE MOLE AND ITS BURROW.

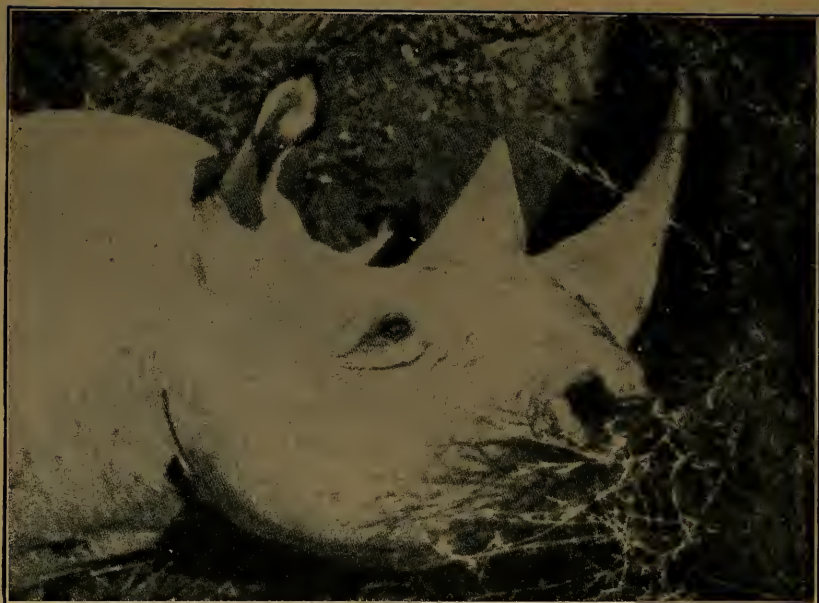
sively of earth-worms, insects, and their larvæ, its visits ought to be welcomed alike by the farmer and the gardener. As a matter of fact, however, the mole has an awkward habit of driving its tunnels below the drilled rows of young farm and garden crops, by which not only are the roots of the plants disturbed, but the whole row may be dried up. Moreover, it appears pretty certain that field moles will take advantage of runs driven in such localities as convenient points from which to make inroads on the sprouting seeds or the roots of the young plants. Then, again, in addition to the unsightliness of a host of mole-hills in a garden, such elevations are

inconvenient in a field of standing grass, as they impede the process of mowing. From these and other circumstances, farmers and gardeners generally unite in a war of extermination against the mole, although there can be no doubt but that in many respects its visits are a distinct advantage to its destroyers.

The golden or Cape moles are so different from all others of this group that they are referred to a distinct family. They are entirely confined to South Africa, where they are represented by about seven species, and are commonly termed moles by the colonists.

In appearance these animals have some resemblance to the moles, but they have shorter and thicker bodies, with a deeper and blunter snout. The whole form is, however, admirably adapted for tunneling through the ground; since the eyes are totally covered beneath the hairy skin, and the minute ears are deeply buried in the fur. While the hind-feet retain a normal form, the fore-feet have been specially modified for the purpose of digging, having only four toes, of which the two central ones are furnished with enormous triangular claws of great power. The golden moles derive both their popular and scientific names from the brilliant metallic luster of the fur, which shows various tints of green, violet, or golden bronze; the brilliancy of these metallic hues being much intensified when the skin is immersed in spirit.

The runs are made so near the surface of the ground that the earth is raised above the tunnel, which can accordingly be followed with ease in all directions. When one of the moles is seen to be at work, owing to the movements of the soil, it can readily be thrown up on to the surface by the aid of a stick or spade. The food of the golden moles consists mainly of earth-worms.



From photograph.

AFRICAN TWO-HORNED RHINOCEROS HEADS.

266

HUNTING THE RHINOCEROS

Colonel Roosevelt Reported Killed by a Rhinoceros—Exciting Fight with This Ferocious Beast—The Natives Praise Bwana Tumbo—Interesting Facts About the Rhinoceros.

Early in November the telegraph wires flashed the exciting news to all parts of the civilized world that Colonel Roosevelt, the now famous game slayer, had been killed by a rhinoceros while hunting on the Guas Ingishu Plateau in the Kisumu province of British East Africa. It is known that the rhinoceros hunt is a dangerous pastime and that scores of European sportsmen have lost their lives in pursuing this ferocious brute. No wonder, then, if all Mr. Roosevelt's friends felt uneasy when this story reached them. Mrs. Roosevelt received the news, and notwithstanding the unlikelihood of the truth of the report and successive denials, she spent several days and nights of intense anxiety, scarcely closing her eyes and saying over and over again, "It is not true; I do not believe it."

But at the next moment she was imagining all kinds of horrors and feeling that she could not be tranquil until she really heard from her husband directly.

Meanwhile neither the Colonial office in London nor the State Department at Washington, nor the Smithsonian Institution, where inquiries were made, had got any information about the rumored accident. Messages were dispatched to the telegraph nearest the hunting party, and at last the following reassuring news was received over the transatlantic cable from the British commissioner at Eldama: "Roosevelt was in excellent health October 23 and news of the party received October 30 reported all well. If anyone in the party is sick we, the nearest medical help, have received no news of such sickness."

While this story, which probably had been let out by New York financiers, was setting the whole world afire, the Colonel was beating the bush in the Eldama ravine in search of bergo, a rare specimen of antelope, which no white man ever has bagged, and as one of his black-skinned beaters put it, "No rhino get Bwana Tumbo," adding with a broad grin: "Bwana Tumbo get rhino quicker."

Nevertheless the rumor might have been true, for the two-horned rhinoceros of East Africa is a most dangerous beast. The Colonel has bagged

several of these gigantic survivors of time past. One large bull fell by a missile from his Winchester barrel in the vicinity of Machakos, while hunting on the Kapiti Plains. The party was beating the bush for lions, when suddenly a colossal rhino was discovered on the plains. Standing like a huge rock on the "velt," his unshapely form throwing an uncanny shadow over the grass, which he was devouring, he was a tempting quarry to our bold sportsman. The monstrous outlines of the great beast stood out most strikingly in the red glow of the scorching tropical sun. As though moved by a sudden impulse he swung round and stood for a moment motionless, as though carved in stone, its head well raised, so that the two formidable horns almost pressed against the back of its massive neck and swerved towards the Colonel. There is something peculiarly awe-inspiring and menacing about these weapons of the rhinoceros. Not that they really make him a more dangerous customer for the sportsman to tackle, but they certainly give that impression. The thought of being impaled, run through, by that ferocious dagger was by no means pleasant to our former President.

There was not much time for reflection, however, for an instant later the big bull came for him full pelt, spitting and snorting and thundering down in its unwieldy fashion, but at an incredible pace. For a moment the Colonel's life hung by a thread. Nothing could save him but a well-aimed bullet. And this time the bullet found its billet. It came straight from the ex-presidential rifle and penetrated the neck of the on-rushing beast—a bull of unusual size which, tumbling head foremost, just like a rabbit, dropped dead almost at the proud hunter's feet.

To see the rhinoceros grazing or resting in the midst of the bare "velt" or to stalk them all by himself or with a native follower to carry a rifle for him was as fascinating an experience as Mr. Roosevelt could desire. At the same time it is one of the most dangerous forms of modern sport. An English writer remarks with truth that even the bravest man cannot always control his senses on such occasions—that he is apt to get dazed and giddy. He knows that the slightest unsteadiness of his hand may mean his destruction. He has to advance a long distance on all fours, or else wiggle along on his stomach like a serpent, making the utmost use of whatever cover offers, and keeping note all the time of the direction of the wind, as the animal's scent is acute. He has to keep on his guard all the time against poisonous snakes and he has to turn to his hunter's instincts as to how near he must get to his game before he fires. A distance of more than a hundred paces is very hazardous—above all, if the hunter wants to kill outright.



Photograph, Underwood.

EAST AFRICAN BULL RHINOCEROS.

One of our illustrations is a photographic reproduction of a huge bull-rhinoceros killed in British East Africa. Its largest horn measures $53\frac{1}{2}$ inches in length. A formidable sight indeed!

There are many ways in which a hunter may be surprised by a rhinoceros, says a famous American sportsman. As he was penetrating the high grass of the "velt" he suddenly perceived, fifty paces in front of him, a huge dark object—a rhinoceros. It had not become aware of him yet, nor of the peril awaiting it. It got up and turned right in his direction. There was no going either forward or backwards for him. The grass encumbered his legs, the old growth mingling with the new into an inextricable tangle. The moment was full of excitement. He tried cautiously to retreat, but his feet were entangled and he slipped. Instantly he jumped up again. The rhinoceros had heard the noise of his fall and was making a rush for him. It was not easy to aim effectively, but he fired. The ringing notes of his rifle rang out like a bird in the air and the next instant he saw the huge beast disappearing over the undulating plain, the bullet having struck one of his horns and been turned aside, startling the rhino and causing him to abandon his intended charge.

Another striking encounter with a rhinoceros is thus described by the same traveler and sportsman.

"Deep-trodden paths led down to the waterside. We follow them through the brushwood, I leading the way, and thus reach the stream. The rush and the roar of the river resounds in our ears, and we catch the notes, too, of birds. Suddenly right in front of me the ground seems to quicken into life. My first notion is that it must be a gigantic crocodile; but no, it is a rhinoceros which has just been bathing, and which now, disturbed, is glancing in our direction and about to attack us or take to its heels, who can say? Escape seems impossible. Clasp my rifle I plunge back into the dense brush-wood. But the tough viscous branches project me forward again. Now for it. The rhinoceros is 'coming for us.' We tumble about in all directions. Some seconds later we exchange stupefied glances. The animal has fled past us, just grazing us and bespattering us with mud, and has disappeared from sight. How small we felt at that moment I cannot express!"



From photograph.

EAST AFRICAN RUBBER FARM.

One of Col. Roosevelt's most extended hunting expeditions in the Sotik District and around the beautiful volcanic Naivasha lake was undertaken to

give him an opportunity to acquire a white rhinoceros for the National Museum. This variety is very rare and the former President was very anxious to secure a specimen before they are totally extinct. This district is dotted with small and large farms where many Boer and German farmers have settled down peacefully side by side of the English residents. The Colonel visited several of the planters and was hospitably entertained in their homes. He found that most of these settlers had erected comfortable houses of stone or wood covered with solid thatch roofs, which offered an excellent protection against the scorching rays of the equatorial sun. He often partook of their frugal meals, and informed himself about their condition and occupations. Not a few of them he found engaged in raising the rubber tree, which thrives exceedingly well in this hot climate. One of our illustrations shows one of these rubber plantations established by a German couple with their native help. This country is slowly being colonized by French, Portuguese, Belgians, Germans, Boers and English and almost every nationality on the earth, and it is only a question of time when it will be a white man's country, the natives existing only in the backwoods and on government reservations, as our American Indians.

The rhinoceros is favorite game both in India and Africa. It has a ferocious disposition and is hard to kill. The easiest and least dangerous method is for the hunter to conceal himself and shoot it when it comes to drink at the pool. The true sportsman prefers to hunt it on horseback with dogs.

As the eyes of the rhinoceros are very small, it seldom turns its head and therefore sees nothing but what is before it. It is to this that it owes its death, and never escapes if there be so much plain as to enable the horses of the hunters to get before it. Its pride and fury then makes it lay aside all thoughts of escaping, except by victory over its enemy. For a moment it stands at bay; then at a start runs straight forward at the horse which is nearest. The rider easily avoids the attack by turning short to one side. This is the fatal instant; a naked man who is mounted behind the principal horseman, drops off the horse, and, unseen by the rhinoceros, gives it, with a sword, a stroke across the tendon of the heel, which renders it incapable either of flight or resistance.

Several travelers have mentioned that there are certain birds which constantly attend the rhinoceros, and give him warning of approaching danger. Their accounts were either received with silent contempt, or treated with

open ridicule, as preposterous extensions of the traveler's privilege of romancing. I can bear witness to the truth of these reports. Once while hunting the rhinoceros in Africa, I saw a huge female lying in the jungle asleep. My first thought was to photograph her and then attack her. I began to crawl toward her, but before I could reach the proper distance several rhinoceros-birds, by which she was attended, warned her of the impending danger, by sticking their bills into her ear, and uttering their harsh, grating cry. Thus aroused, she suddenly sprang to her feet, and crashed away through the jungle at a rapid trot, and I saw no more of her.

These rhinoceros-birds are constant attendants upon the hippopotamus and the four varieties of rhinoceros, their object being to feed upon the ticks and other parasitic insects that swarm upon these animals. They are of a grayish color, and are nearly as large as a common thrush; their voice is very similar to that of the mistletoe-thrush. Many a time have these ever-watchful birds disappointed me in my stalk, and tempted me to invoke an anathema upon their devoted heads. They are the best friends the rhinoceros has, and rarely fail to awaken him, even in his soundest nap. "Chukuroo" perfectly understands their warning, and springing to his feet, he generally first looks about him in every direction, after which he invariably makes of.

Next to the elephant in size, comes the rhinoceros, which with the hippopotamus, lays claim to bulk and ferocity unequalled by any other member of the animal kingdom. The rhinoceros is found in the rivers of Central Africa and Southern Asia. It can only live in tropical climates.

The length of the rhinoceros is usually about twelve feet, and this is also nearly the girth of its body. The skin, which is of a blackish color, is disposed, about the neck, into large plaits or folds. A fold of the same kind passes from the shoulders to the fore legs; another from the hind part of the back to the thighs. The skin is naked, rough, and covered with a kind of tubercles, or large callous granulations. Between the folds, and under the belly, it is soft, and of a light rose-color. The horns are composed of a closely-packed mass of horn fibers, growing from the skin, and having no connection with the bones of the skull, although there are prominences on the latter beneath each horn. Although the African species are entirely dependent on their enormous horns, as weapons of offense and defense, the Asiatic kinds, in which the horns are smaller, seem to rely chiefly upon their sharply-pointed lower tusks, which are capable of inflicting

terrific gashes. All are mainly abroad at night, and while some resemble the tapirs in frequenting tall grass-jungles and swampy districts, others seem to prefer more or less open plains. Their food is entirely vegetable; but whereas some species live almost exclusively on grass, the food of others consists mainly of twigs and small boughs of trees. At the present day these animals are restricted to South-Eastern Asia and Africa.

The single-horned rhinoceros is not exceeded in size by any land animal except the elephant, and in strength and power it gives place to none. Its nose is armed with a formidable weapon, a hard and solid horn, some-



GREAT INDIAN RHINOCEROS.

times more than three feet in length, and, at the base, eighteen inches in circumference; and with this it is able to defend itself against the attack of every ferocious animal.

The body of the rhinoceros is defended by a skin so hard as to be almost impenetrable, except in the under parts, by either knife or spear.

Some hunters have created the impression that the hide of the rhinoceros will turn a leaden bullet and sometimes an iron one. This is a popular error, for a common leaden ball will pierce the hide at a distance of thirty or forty paces, especially if a double charge of powder be used, which is the

custom with all rhinoceros hunters. The most deadly aim is just behind the shoulder. The skull is too thick and the brain pan too small for a successful shot at the head.

I once had an excellent opportunity to observe the fighting quality of the rhinoceros in conflict with other animals. It was in the province of Oude. I had become separated from my men and had lost my bearings. Night overtook me, and I decided to camp on the banks of a lagoon beneath



INDIAN RHINOCEROS FIGHTING AN ELEPHANT.

a huge peepul tree. How long I had slept, I know not, but the moon was almost perpendicular when I awoke, and it was as bright as day. A sudden harsh scream was the cause of my rousing up. I knew it well.

It was the trumpet of an elephant!

Instinctively I bounded to my feet, and looked around me in consternation. I was in the midst of a herd of wild elephants!

The danger of my position flashed on me in an instant. The wild

elephant is a dangerous brute at the best of times, but at night, and in herds, he tramples over everything, and feels more at home and free from danger than in the day, apparently.

But these elephants did not seem to be aware of my presence. They were evidently excited about something else, and had not observed me, asleep in the shadow of the peepul.

They were rushing about in the open ground, most of those I could see being females, as I knew by the absence of the tusks, and some sort



INDIAN RHINOCEROS AFTER SHEDDING ITS HORN.

of contest seemed to be going on among them. What it was, I could not see at first.

At last a chorus of trumpeting and vicious pig-like squeals broke out from the center of the moving mass, and I saw the female elephants scatter right and left in dismay.

Then I discerned a terrible conflict. A huge bull elephant rushed forward, with his trunk curled up tightly behind the long formidable tusks out of harm's way, striving to pierce a strange antagonist.

A long, low, uncouth-looking beast, of some five feet in height at the

shoulder, and shaped much like an immense hog, was running full tilt at the old elephant.

The short, upright horn on the snout, the contour of the animal, and the loose folds of skin that covered his ribs, proclaimed that most dangerous of all animals, the Indian rhinoceros.

If it had been alone, and I had met it, I should have counted myself lost, such is the sullen and vindictive nature of this horrible beast. It is the only animal known that will attack man habitually, wherever met, and all the other wild beasts of India fear and avoid it.

But for the present the attention of the rhinoceros was fully engaged. Besides the old bull now charging at him, another younger one was skulking around to take him in the rear, and a third lay close by, with his entrails gushing out of a frightful wound inflicted by the deadly horn. As I looked, the old bull elephant made his charge, that seemed as if it would carry everything before it.

But the rhinoceros, with surprising agility for a creature of such unwieldy appearance, leaped actively to one side, and, running around, tried hard to get in at the unprotected flank of the elephant. The latter as sharply threw his hind-quarters around, and received the pig-like brute on his tusks. But, deprived of the impetus of his charge, he was unable to pierce the tough hide of the rhinoceros, which is thick enough to turn a leaden bullet at close quarters.

Then the two stood head to head for some minutes, the rhinoceros striving to wriggle his way between the forelegs of the elephant, to use his horn with effect. The elephant, on his part, strove hard to pin the rhinoceros to the earth, but in vain.

Presently I noticed the second elephant. He was charging, and close to the rhinoceros. The latter saw him, too, and suddenly broke away from his first antagonist, rushing to meet the second. The young bull charged gallantly, but he was not up to the tricks of his wily adversary. The rhinoceros swerved, as he came, and the excited elephant missed his mark, lumbering past in vain effort. Not so the rhinoceros. As quick as thought he rushed in at the unguarded side of his heedless foe, and I could see him working away at the elephant's side, like a pig rooting. The elephant gave a hoarse roar of pain, and tried to turn, but the active rhinoceros was too quick for him, and he fell down, helpless and dying.

And now came the turn of the old bull. Cautious and wary, he watched his opportunity, and rushed at the rhinoceros from the side. The latter,

owing to his engagement with his other enemy, and his somewhat defective vision, did not see him till too late.

The great bull elephant thundered on like an avalanche, and in an instant more the terrible tusks, nearly seven feet in length in the clear, as I judged, were buried in the side of the redoubtable rhinoceros.

A shrill squeal of pain from the latter, and he tried in vain to extricate himself. The battle was over. He had slain two elephants, and died game himself.

I cannot tell you the absorbing interest with which I had watched this



TWO-HORNED AFRICAN RHINOCEROS.

curious conflict. True I was an unwilling spectator, for I did not dare to move out of the shadow of the tree, for fear of attracting notice. Now, however, an idea struck me.

Excited and furious as the old bull was, it was probable that the flush of his victory might make him tenfold more dangerous to me.

The battle had moved so close to me, during the vicissitudes of its varying fortune, that the last elephant, in his fall, had almost brushed the foliage of a bush I stood behind. My resolution was taken in an instant.

I must kill the old bull, or be killed myself almost inevitably. He was not ten feet from me, and striving to pull clear from the body of the rhinoceros, which he had pinned into the very ground.

I ran round the fallen elephant, and, before he could draw clear, I stood almost touching his temple with my rifle.

One flash! It was enough! Struck through the brain, the old bull dropped instantaneously, and I was safe!

The female elephants, panic-stricken at the noise and the flash, scattered in all directions in dismay.

In five minutes I was alone!

In Southeastern Africa both species of rhinoceros generally leave their lairs about four o'clock in the afternoon, or, in districts where there are many human beings, somewhat later. They commence feeding in the direction of their drinking places, to which they travel by regular beaten paths, and arrive at the same somewhere about dark. If the drinking place is a mudhole they frequently refresh themselves with a roll, after drinking their fill. They then start for their favorite thorn feeding grounds, where they remain till daybreak, when they generally again drink. At an earlier or later hour after this, the time being to some extent dependent on the freedom of the district from human intrusion, they retire to their sleeping places, which they reach at any rate before the heat of the day. The lair is always in an extremely sheltered and deeply-shaded spot, and so heavily do they slumber that a practiced stalker could almost touch them with the muzzle of a gun, unless they are awakened by the birds which always accompany them.

WART-HOG'S NATIVE HAUNTS

Mr. Roosevelt Kills a Wart-hog—The Ugliest Animal He Saw in Africa—The Story of This Beast.

While our ex-President did not care so much for the small game that crowded his African hunting grounds, but rather went for the big monsters which, to the genuine sportsman, furnish the chief attraction of the wilderness, still he did not fail to take notice of all other interesting members of the animal kingdom that crossed his hunting trail. One of the strangest and



Photograph, Underwood.

YOUNG EAST AFRICAN WART-HOG.

ugliest of these inhabitants of the tropics—the wart-hog—was shot by him a few days after his first lion hunt, in the neighborhood of Potha.

Our illustration represents a scene that might have been observed by the Roosevelt hunting expedition as its members were roving around along the plains. The leopard has climbed up a tree and is hiding on a branch, eagerly watching for its savory prey. He crouches for a sudden leap as soon as the unsuspecting victim comes within his reach. He generally dives for its thick neck, in whose soft and tender flesh he buries his sharp and pointed teeth before the hog has time to prepare for defense. With his powerful



From photograph.

HEAD OF WART-HOG.

jaws around its neck and his elastic paws, armed with needle-like claws, in its flanks, the leopard cannot be shaken off and the struggle generally ends with the death of the hog.

The animal bagged by Mr. Roosevelt was an old sow, who was grazing on the "velt" with her young ones. He found that the wart-hog, notwithstanding its comparatively small size, is a dangerous foe to meet. It often



LEOPARD READY TO LEAP ON A WART-HOG.

succeeds in placing the hunter's life in jeopardy and ripping up his horse with its long tusks, leaving him to choose between continuing the fight on foot or seeking his salvation in a sudden flight.

The flesh of this animal is as delicious and tender as that of our tame hogs, and it is often hunted to supply the tables of the African farmers with one of its most savory and tempting dishes. After having secured a few boars as specimens for the National Museum, Mr. Roosevelt killed no more wart-hogs, except when it was necessary to get some fresh meat for his native servants.

Travelers in East Africa have many stories to tell about the fury and savage ferocity of this beast. It never attacks man unless in self-defense, but when pursued and brought at bay it shows an ugly disposition and fights bravely for its life. It is no coward and very seldom takes refuge to its underground caves when persecuted by native hunters, or other wild animals.

The wart-hog is an interesting animal, and while still very numerous in Africa it is probably doomed to extinction, as it is constantly retiring before the advancing civilization and cannot be domesticated. The following facts as to its nature and habits will no doubt deserve our readers' attention:

I do not know of any uglier animal than the wart-hog, with its huge tusks, big warty protuberances below the eyes and fierce-looking bristly mane. They are found over a large part of Eastern Africa, and are dangerous animals to come upon unawares.

In Abyssinia, its habits are very similar to those of ordinary pigs. It lives amongst bushes or in ravines during the day, and comes out to feed in the evening, still keeping much to bush-jungle. The large males are usually solitary; the younger animals and females live in small herds, apparently not exceeding eight or ten in number. I never saw large "sounders," such as are so commonly met with in the case of the Indian hog. It feeds much on roots, which it digs up by means of its huge tusks. It also appears to dig large holes, in which it occasionally lies; these are perhaps intended for the young. Despite its formidable appearance, the Abyssinian wart-hog is a comparatively timid animal, far inferior in courage to the Indian wild hog. Several which I wounded showed no inclination to charge under circumstances in which an Indian pig would certainly have shown fight. The flesh is savory, but dry and hard, even in comparatively young animals.

When brought to bay by dogs, wart-hogs make a determined stand, and inflict severe injuries on their assailants. If excited, they carry their long tails stuck straight upright.

In South-Eastern Africa—where they are known to the natives by the name of Indhlovudawani—wart-hogs are found on the plains in light thorn-jungles; and they are abundant in the districts around Mount Kilima-Njaro. In those regions they generally occupy the deserted burrow of an aard-vark, or other animal. They have a most curious mode of exit when they bolt—a dangerous one if you are not up to it. As they emerge from a hole, they turn a somersault on to the back of it, instead of coming straight out like an ordinary animal, and as that is just the spot where one would naturally



WART HOG OF SOUTH EASTERN AFRICA.

stand, more than one man has had his legs ripped open before he learnt the wisdom of experience. On more than one occasion I have seen a male wart-hog walk deliberately through a pack of large hounds without taking the slightest notice of them, so long as they refrained from biting. Did, however, one bolder than the rest, venture to come to close quarters, the wart-hog with a sudden jerk would either lay its assailant crippled on the ground, or send it howling away.

The young are striped, as are the young of the wild boar.



STORY OF THE LINSANG.

Next to the ocelot, I think the linsang is the most beautifully marked animal I ever met. The linsang is related to the civet and there are four varieties of it, three Oriental and one African.

It has a long, slender body, short limbs, long head and neck, and a tail longer than the head and body combined. The claws can be completely withdrawn within their sheaths; the soles of the feet are hairy.

It has no scent pouch like the civet.

It is not only in the color of its fur, but the texture also, that the linsang is beautiful. The fur is short and soft and so thick that the skin of the animal looks like a pile of velvet. The ground color is reddish, freely marked with bold black spots, while the long tail is circled by black rings.

This striking combination and arrangement of colors has suggested the name of tiger-civet for this animal, but it is better known by the name of linsang.

They are all flesh-eating animals, but some of them also feed upon insects. The linsangs of Asia have larger spots than the African species.

The earliest known of these animals was the Javan linsang from Java, Borneo, and perhaps Sumatra. It is the smallest of the linsangs.

The Burmese linsang, which is the largest, and handsomest, of the group, appears to be a rare animal, and is at present known only by two specimens, one obtained from near Moulmein, and the other in South Tenasserim. The

tail is slightly shorter than the head and body; the length of the two latter being about nineteen inches, and that of the former (including the hair at the tip) just under seventeen inches. The body has a grayish ground-color, marked with about six very broad and somewhat irregular brownish-black



LINSANGS.

bands extending across the back, and separated by very narrow intervals. On the flanks and neck the markings form broken lines and spots, one very distinct line always extending from behind the ear to the shoulder. The outer surfaces of the fore-limbs and of the thighs are spotted; and the tail has seven complete dark rings, separated by narrower light interspaces.

The spotted linsang, which is found from the Southeastern Himalaya to Yunan, is a somewhat smaller animal; the length of the head and body being only fifteen inches. It is readily distinguished by its coloration; the back being marked with rows of large oblong spots, instead of bands.

A tame specimen of this beautiful animal was once kept by a Mr. Hodgson in Nipal. He describes it as very docile, fond of notice, and never giving vent to any kind of sound. It was free from the strong odor characteristic of the true civets, and was fed upon raw meat. He states that in its wild condition this species is equally at home on trees and on the ground; and that it dwells and breeds in the hollows of decayed trees. It preys chiefly upon small birds, upon which it is wont to pounce from the coover of the grass.

The African linsang, of which some of the distinctive characters have been already mentioned, is found only on the West Coast, in Sierra Leone and Fernando Po, and is, therefore, widely separated from its Oriental relatives. The tail is somewhat longer than the head and body, measuring upwards of forty and one-half inches; whereas the total length of the head and body is but thirty-eight inches. The spots, as already mentioned, are smaller than in the Oriental linsangs, and, with the exception of some stripes on the back of the head, and a line extending from the neighborhood of the ear to the shoulder, do not run together into lines or patches. The tail is peculiar in that the light rings separating the large dark bands are divided in the middle by very narrow dark rings.



THE STORY OF THE FOX.

Fox-hunting is a common but exciting sport in both England and America. Both the red and the gray fox leave a trail that is easily followed by the hounds. The well-known scent of the fox is secreted as it runs and is easily detected by the human as well as the canine nose. There is no doubt that the natural cunning of the fox has been greatly increased by long experience in matching its wits against dogs and hunters, for in countries where the fox is not hunted it is far less cunning than either the gray or red fox of America and England.

The reds are bolder in pursuit, and hunt over a much greater territory than the grays. Whether the grays ever climb trees in pursuit of prey I am uncertain, but they take to a tree as readily as a cat when run hard by hounds. I think it nearly certain that they climb for persimmons and grapes. Red foxes never climb trees under any circumstances; when hard run they go to earth. Gray foxes run before hounds only a short distance, doubling constantly and for a short time, when they either hole in a tree, or climb one. I have known the red fox to run straight away nearly twenty miles. Very commonly they run eight or ten miles away, and then run back in a parallel course. I have known them to run the four sides of a square. It is doubtful whether a first-rate specimen of the red fox, taken at his best in point of condition, can either be killed or run to earth by any pack of hounds living, such are his matchless speed and en-

durance. It is but a sorry pack which fails to kill or tree a gray fox in an hour's run. The young of the gray fox closely resemble small blackish puppies; those of the red fox are distinctly fox-like from the hour of their birth.

Many tales are related of the fox's cunning when pursued, such as driving another fox out of its home, and forcing it to substitute itself as the chase; diving into a heap of manure, so that the dogs could not perceive its scent; jumping over a wall, running a little way, coming back again, and lying under the wall until all the dogs had passed, and then leaping



RED FOXES IN WINTER.

a second time over the same place where it had passed before, and making off on its old track.

On the banks of the Kentucky River rise huge rocky bluffs, many feet in height. A fox that lived near this river was constantly hunted, and as regularly lost over the bluff. Now, nothing short of wings would have enabled the animal to escape with life down a perpendicular cliff. At last I determined to discover the means by which the animal baffled all of us, and I concealed myself near the bluff.

Accordingly, in good time the fox came to the top of the cliff and looked over. He then let himself down the face of the cliff by a movement between a leap and a slide, and landed on a shelf not quite a foot in width about ten feet down.

The fox then disappeared in a hole above the shelf. On examination the shelf turned out to be the mouth of a wide fissure in the rock, into which the fox always escaped.



ARCTIC FOX WITH MURRE'S EGG.

But how was he to get out again? He might slide down ten feet, but he could never leap ten feet from a ten-inch shelf up the face of a perpendicular rock. This impossibility caused me to make a search, and at length I discovered an easier entrance into the cave from the level ground.

The fox was too wise to use that entrance when the hounds were behind him, so he was accustomed to cut short the scent by dropping down

the rock, and then, when all the dogs were at the edge of the cliff, he walked out at his leisure by the other entrance.

The fox is a native of almost every quarter of the globe; it is of so wild and savage a nature, that it is impossible fully to tame him. He is esteemed the most sagacious and crafty of all the beasts of prey. The former quality he shows in his mode of providing for himself an asylum, where he retires from pressing dangers, dwells, and brings up his young; and his craftiness is discovered by his schemes to catch lambs, geese, hens, all kinds of small birds, rabbits and field mice.

When it is possible for him conveniently to do so, the fox forms his burrow near the border of a wood, in the neighborhood of some farm or village. He there listens to the crowing of the cocks, and the cries of the poultry. He scents them at a distance; he chooses his time with judgment; he conceals his road, as well as his design; he slips forward with caution, sometimes even trailing his body; and seldom makes a fruitless expedition. If he can leap the wall, or creep in underneath, he ravages the barn-yard, puts all to death, and retires softly with his prey; which he either hides under the adjacent herbage, or carries off to his kennel.

With regard to the caution displayed by foxes in taking a bait, I once had the good fortune of observing, on a winter evening, a fox which for many preceding days had been allured with loop baits, and as often as it ate one it sat comfortably down, wagging his brush. The nearer it approached the trap, the longer did it hesitate to take the baits, and the oftener did it make the tour round the catching-place. When arrived near the trap, it squatted down, and eyed the bait for ten minutes at least; whereon it ran three or four times round the trap, then it stretched out one of its fore-paws after the bait, but did not touch it; again a pause, during which the fox stared immovably at the bait. At last, as if in despair, the animal made a rush, and was caught by the neck.

The kit fox is the smallest and prettiest of North American foxes. It lives in an open, treeless district and makes its burrow in the ground. The back and tail are dark gray and the under parts white.

The Arctic fox, which is found all over the Arctic region, differs from all other members of the fox family, particularly in its change of dress from summer to winter. In summer it is bluish gray on the back, and white beneath. In the winter its coat turns to a pure white, so that it can scarcely be distinguished from its snowy surroundings. In the long Arctic nights the hunter constantly hears its yapping bark. In the sum-

mer it preys upon the numerous land and aquatic birds. What it lives on in winter when the birds have left for a southern latitude no one seems to know, although it is believed that, like the squirrel, they lay by a store of provisions during the summer months. The Arctic fox is fond of bird's eggs as well as of birds, and I once shot one which had a murre's egg in its mouth.

In Asia there are several breeds of desert foxes, the largest specimens



AFRICAN ASSE FOX.

having a striped appearance. In Central Asia we find the Corsac fox, of a paler color, white under parts, a black-tipped tail, and lacking the stripe of the desert fox.

It is a thin-brained creature, possessing none of the cunning of the red and gray foxes of Europe and America. It is too lazy to make its own burrow, and finds its home in the burrow of the marmot, which that animal has either deserted or from which he has been evicted.

Of the true foxes the pretty little Indian fox is the smallest, measuring

only twenty inches from the tip of the snout to the root of the tail: Its fur is gray, tinged with red. It is by no means timid, and I have shot one that walked up boldly to my camp. Its burrow is in the open plain, and it lives on lizards, rats, crabs, white ants and various insects.

The Indian fox has no scent, and therefore is seldom hunted with hounds.

Another small and pretty member of the fox family is the fennec, of Northern Africa. It has enormous ears for such a small animal. The color



FENNECS, OR AFRICAN FOXES.

of the fur varies from fawn to buff, the under parts being white, and the tail black.

Like the common fox, the fennec makes a burrow, which is generally in the tufts of low plants in the desert. The inside of the burrow is lined with feathers, hair, and soft vegetable substances, and is remarkable for its cleanliness. The burrows are made with wonderful rapidity—so quickly, indeed, that the animal seems to sink into the ground.



THE STORY OF THE WEASEL.

No one would think, on seeing a weasel for the first time, that the graceful, slender little animal, with its brown back, pretty, white throat, funny face, and sparkling eyes, was such a fierce, bloodthirsty creature. But that little head is full of murderous designs, and has the courage of a giant. Rats and mice are everywhere hunted out and destroyed by the weasel. It inflicts a bite on the head which pierces the brain, and seldom fails to lay the victim dead at its feet by one stroke.

The weasel is also a destroyer of newly-hatched chickens and young ducks, as well as of the smaller feathered tribe; and although it does good service in keeping down the mice, it is a bad neighbor to the hare and rabbit-warren. It is a most active and persevering hunter; few trees will stop it when in search of birds' nests, which it robs, not only by sucking the eggs, but by carrying off the young.

The weasel is excessively useful to farmers on account of its unrelenting war on rats and mice, and in an incredibly short space of time it extirpates them from a barn or stack. It hunts by scent like dogs, and tracks the unfortunate rat with the most deadly certainty. It is so courageous that it will even attack men, and is by no means a despicable antagonist, as its instinct invariably leads it to dash at the throat, where a bite from its long sharp teeth is always dangerous.

The weasel's nest is composed of dry leaves and herbage, and is made in a hollow tree, dry ditch or hole in the side of a bank. If any one approaches the nest while the young are helpless, the mother and often the male will attack the intruder with great fury, showing courage to a remarkable degree.

The pretty little South African weasel is worthy of mention, not only on account of its remarkable coloration, but also as being the sole representative of the weasels in Africa south of the Sahara. This species is distinguished from all the other weasels by having the ground-color of the fur black, with the upper part of the head and neck white, and four pale brownish white stripes running along the back; the tapering tail being white.

I have on several occasions witnessed this animal tantalize the lion and other large animals of South Africa. It has a shrill cry, and, secure in its nest among the rocks, it comes to the entrance and sets up a peculiar moan. Should a lion be within hearing he proceeds to investigate, and the moan is lessened until the lion believes himself about to find a victim. When he approaches quite near, the little creature retreats to a secure place but continues its cry. The lion after a vain search gives up the attempt.

The weasel is very often called "wormlike," and a better name could scarcely be applied to it, for anything more wormlike could hardly be imagined in a hairy quadruped or four-footed animal. The legs are extremely short in relation to the body, which is slender in the highest degree, and almost regularly cylindrical from one end to the other. Then the neck is of most disproportionate length, and carries the head out so far, that the forelegs appear as if placed quite at the hinder end of the chest, instead of in the front of it. The head passes gradually into the neck, and the neck into the body. The head is flattened, and bears little, glittering savage-looking eyes, and small rounded ears. The length from snout to root of tail does not exceed eight inches. The tail is about two inches long. The fur is light reddish-brown above, and white below; in northern latitudes the brown parts assume a much lighter color in winter, so that the weasel undergoes a change of coat similar to, but less extensive than that undergone by the ermine.

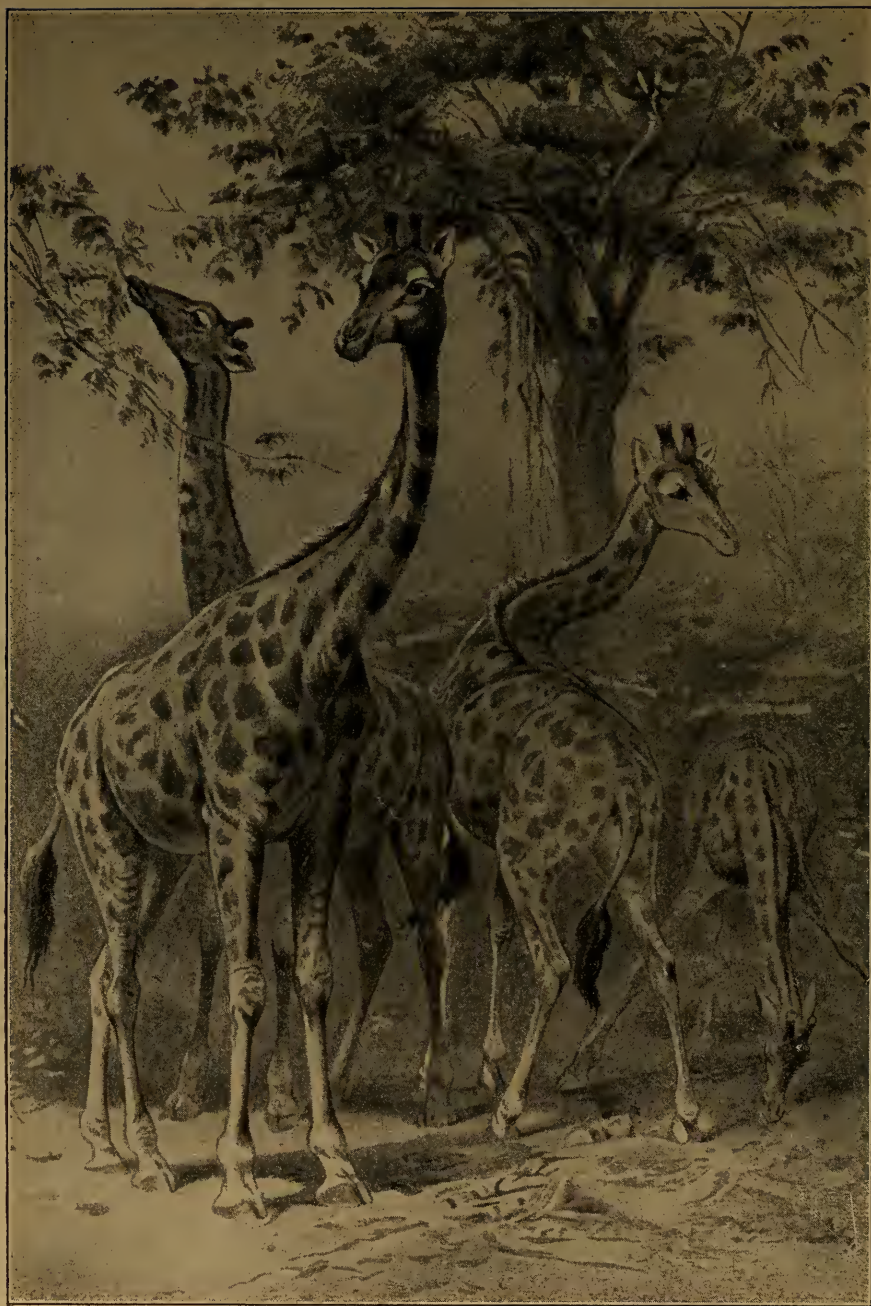
The weasel is a good climber, and makes use of his skill in this accomplishment to prey upon birds, their eggs, and young. It will pursue its prey over fields, in trees, in subterranean burrows, or across water. Like many of the wild cats, it kills far more than is necessary for its support, and in pursuance of its favorite occupation of slaughter shows an unequalled courage and pertinacity. Its power of keeping its presence of mind under very

trying circumstances is well shown in the following anecdote: While riding through a field one day I saw at a short distance a kite pounce on some object on the ground, and rise with it in his talons. In a few moments, however, the kite began to show signs of great uneasiness, rising rapidly in the air, or as quickly falling, and wheeling irregularly round, whilst it was evidently endeavoring to force some obnoxious thing from it with its feet.



THE WEASEL AND ITS PREY.

After a sharp but short contest, the kite fell suddenly to the earth, not far from where I was intently watching the manœuvre. I instantly rode up to the spot, when a weasel ran away from the kite, apparently unhurt, leaving the bird dead, with a hole eaten through the skin under the wing, and the large blood-vessels of the part cut through.



GIRAFFES BROWSING AMONG THE TREES.

HUNTING THE GIRAFFE

Mr. Roosevelt Bags Two Bull Giraffes and Kermit Rides Down and Kills One—Difficulties in Hunting This Long-Sighted and Wary Animal—Peculiar Habits of the Giraffe.

Mr. Roosevelt was anxious to secure a bull and a cow giraffe for the National Museum. While he often saw both single animals and small troops of this long-necked inhabitant of the velt he soon found that it was very difficult to approach it by stalking. The giraffe, owing to its immense tall neck, on the top of which its head towers eighteen feet above the ground, and its keen eyesight, is able to descry its enemies at a distance of one to two miles, and thus has time to disappear before the sportsman can reach it. It was while visiting at Captain Slatter's ostrich farm near the picturesque Kilimakiu mountain and immediately after the exciting rhinoceros hunt related in another chapter, that the Colonel got a chance to satisfy his desire. Starting out from the camp, which was pitched at Potha, in search of prey he came across a small herd of giraffes browsing in a little grove of mimosa trees. But all his swift bullets could do was to chase the beasts away. To see the whole herd of giraffes in rapid motion was a strange sight to our American hunter. The characteristic pace made their streaked bodies swing to and fro and their necks looked like so many masts of ships rolling about in a heavy sea, while the pendulous swinging of their tails accompanied every motion of their legs.

The giraffe is not only the tallest of all animals but is also the only animal which is entirely mute. This strange lack of voice has caused a distinguished African traveler to assume that his tail takes the place of an "organ of speech." Its variegated swinging, turning, switching and curving constitute, in his opinion, a code of signals, a kind of animal "deaf-and-dumb language." This "tail language" is supplemented by expressive postures of neck and body, so that the giraffes have quite an extensive vocabulary at their command in communicating with one another.

The giraffe is by nature shy, and when much hunted, like all other animals, becomes very cautious. In the open plains it is very difficult to approach it nearer than within five or six hundred feet. It is exceedingly keen of smell and hearing, and still more so of sight, and taxes the skill of even a good sportsman to the utmost, especially in East Africa, where the

climate and the rough surface of the ground make the use of horses well nigh impossible. The large, lustrous eye commands a wide angle of vision, and the leading bull or cow is constantly on the lookout while the herd rests in the shade of the tree. A switch of the long tail warns the herd and it seeks safety in immediate flight. The animal's pace is a peculiar gallop, the fore and hind legs of the same side moving at the same time.

No wonder, then, if the Colonel was disappointed in his first attempt to slay this enormous beast. The next day, however, he set out again, accompanied by his hospitable host, Captain Slatter, and this time was successful. They came on a small troop of giraffes browsing in an acacia grove. A swift bullet from the former President's Winchester struck the biggest bull and off the whole herd went with the speed of an express train. And now began an exciting chase along the velt for several hours, for our Rough Rider had made up his mind not to let his victim escape him this time. Riding at full speed along a rocky ground, full of wart-hog holes and other pitfalls, he sent bullet upon bullet after the fleeing animals. The largest bull at last came down, and after another hour's wild chase one more of the herd, a smaller bull, was added to the Smithsonian collection of rare and valuable specimens.

Mr. Edmund Heller at once began preparing the skins of the animals. This is a very difficult task, especially in this case, one of the specimens being an old bull, because large quantities of salt and alum were needed, and large vessels for the impregnation of the skins. This is the reason that so few museums possess skins of full-grown bull giraffes like those our National Museum now has, thanks to our ex-President's untiring efforts. These skins grow, naturally, more and more valuable the rarer the animals become. The natives kill thousands of these inoffensive animals every year for European traders, who pay from twenty to thirty dollars apiece for the skins. Mr. Roosevelt, therefore, realized that it was high time to secure these skins for America; for, in spite of all protective laws, the giraffe will soon be counted among the extinct races of animals.

Hundreds of giraffes are killed by lions, against which they are comparatively defenseless, the only weapon of defense they use being their heels. The powerful kick of the bull giraffe is apt to keep a lion at a respectable distance. He is even able to shake off his enemy and run away from him, and where other game is plentiful the lion will leave the giraffe alone. Nevertheless giraffes are often killed by lions, between whose teeth and the human hunter he will not escape destruction.

Meanwhile Kermit and Sir Albert Pease had been out on an exploration in another direction. They surprised a herd of giraffes on the open steppe and immediately gave them chase. Off they scampered over the rough, craggy ground, clapping the spurs to their horses, Kermit almost flying on the wings of the wind and sending bullet upon bullet into the huge quarry, until his horse was outdone and he had to jump off and continue the race on foot. He was in splendid trim, full of courage and eager anxiety to outdo his companions, and ran for all his life was worth for about two miles. No more firing was necessary, however, for he found the large bull stretched on the ground, overcome by the many wounds inflicted by his pursuers and dead as a door nail. It was a fine specimen, measuring fully eighteen feet from the tops of its front hoofs to the crown of its head, and even larger than the old bull bagged by the proud father, who felt almost more delighted over his son's powers and achievements than over his own success.

We now let a famous African traveler and sportsman tell what he knows about the giraffe from his own observations. Says he: .

One of the most curious sights I ever witnessed was a giraffe drinking. It was on the edge of Kalahari Desert in South Africa. I had gone into camp near a stream, and while my men were preparing the evening meal, I was reclining near a clump of bushes, enjoying my pipe—a Boer fashion of smoking before meals, as well as after—when I heard a noise near the stream below me. Looking in that direction I saw a pair of full grown young giraffes that had stopped at the edge of the stream and were preparing to drink.

Although they have such long necks they are not long enough to reach the ground when the giraffe is standing in an ordinary position.

The male giraffe placed one forefoot slightly in front of the other and then began straddling his forelegs wide apart. Little by little with a jerky motion he spread his legs until they were far enough apart to enable him to reach the water, but he made three attempts before he was successful. He was such a comical sight that I burst out laughing. They heard me, looked up and saw me, and then took to their heels.

My native men had told me that the giraffe never drinks, but I knew then that they were mistaken. It is certain, however, that the giraffes of the North Kalahari Desert will go from seven to eight months without water.

The giraffe is the tallest, most graceful and one of the most remarkable

of all animals. It belongs to a family apart from any other in natural history. The chief point of contrast, and one which has been the source of much discussion among scientific men, is the pair of horn-like appendages on the top of the giraffe's head. As it is largely owing to the peculiar nature of these appendages that the giraffe is referred to a distinct family, they require somewhat fuller notice. These horns, as they may be conveniently called, are only a few inches in length, and are present in both sexes, making



HABITS OF THE GIRAFFE.

their appearance even before birth. They are at first entirely separate from the bones of the skull, although in later life completely uniting with them. They are thus essentially different from the horn-cores of the oxen and their allies, from which they are likewise distinguished by being invested with skin instead of horn. The giraffe was formerly extensively found from Nubia to the Cape of Good Hope. In South Africa it is now wholly extinct.

In the opinion of modern naturalists, it holds a place by itself between the deer and antelopes; it forms, at all events, a group to which no other animals belong. The height of the giraffe varies from thirteen to eighteen feet. Its beautiful long neck enables it to browse on the leaves of the trees on which it feeds. It is very dainty while feeding, and plucks the leaves one by one with its long, flexible tongue. The females are of lower stature, and more delicately formed than the males.

The movements of the giraffe are very peculiar, the limbs of each side



GIRAFFES OF THE KALAHARI DESERT.

appearing to act together. It is very swift, and can outrun a horse, especially if it can get among broken ground and rocks, over which it leaps with a succession of frog-like hops.

The senses of both sight and hearing are highly developed; and the lofty position of the head gives to the soft and liquid eyes a wide field of view. The animal's only means of defense is by kicking out with its legs; and the blows thus delivered are of terrific force and power. This mode of attack is

employed by the cow in defending her young, and likewise in the contests which take place among the males during the pairing season.

Some writers have discovered ugliness and a want of grace in the giraffe, but I consider that he is one of the most strikingly beautiful animals in the creation; and when a herd is seen scattered through a grove of the picturesque parasol-topped acacias which adorn their native plains, and on whose uppermost shoots they are enabled to browse through the colossal height with which nature has so admirably endowed them, he must indeed be slow of conception who fails to discover both grace and dignity in all their movements.

As in the case of most wild animals, the surroundings of the giraffe are a protection to him. Among the great South African forests, where innumerable blasted and weather-beaten trunks and stems occur, I have repeatedly been in doubt as to the presence of a troop, until I had recourse to my field glass, and I have known even the practiced eye of the natives deceived, at one time mistaking these trunks for giraffes, and again confounding real giraffes with these aged veterans of the forest. The dappled hide of the giraffe blends harmoniously with the splashes of light and shade formed by the sun glinting through the foliage of the trees beneath which the animals take their stand, and thus intensifies the illusion.

Giraffes range in herds of sixteen to one hundred. They are hunted principally for their hides, which are worth from twenty-five to forty dollars each.

I never shot one of these harmless, beautiful creatures, although I have had many opportunities.

THE AFRICAN LEOPARD

Colonel Roosevelt Bags a Leopard—Captures Cubs Alive—Kermit's Good Luck; He Kills a Leopard at a Distance of Twelve Feet—Facts About This Bloodthirsty Feline.

While hunting buffaloes and lions on the Kapiti Plains Colonel Roosevelt incidentally came across and killed a leopard. The cubs were captured alive.

While much smaller than the lion the leopard is generally conceded to be the most dangerous and most formidable beast of prey in East Africa. It is more blood-thirsty, ferocious, cunning and destructive than the lion. It is stealthy, tricky and truculent. The cry of the leopard is a hoarse grunt, sometimes also sounding like a snarl. Its food consists of any mammals it can overpower. Its favorite diet is monkeys, smaller antelopes, gazelles, and, in mountainous districts, also wart-hogs. It hunts its prey preferably at night when the antelopes visit their drinking places and the monkeys sleep on steep rocks and in trees. The unceasing bleating of antelopes and the intense shrieking of monkeys always indicate that their enemy is attacking them. The big baboons, however, are well able to offer a stout resistance, for their weapons are sharp and larger than those of the leopard.

A couple of weeks later Kermit and Mr. McMillan were out beating for game on the Juja farm, the latter's magnificent ranch on the Athi river, where the Roosevelt party stopped for several weeks while hunting in the vicinity, and suddenly came on the spoor of a leopard in a dry watercourse surrounded by dense jungles. The young sportsman had an exciting encounter with the ferocious beast, which came near killing one of his beaters and threatened his own life. Driven out by the beaters from the thicket, where it was in hiding, the furious beast, with a lightning-like rapidity, which defies description, came running towards the hunters and charged Kermit, who was only a few paces from the jungle. He pulled the trigger just in the nick of time, for had the mortal bullet hit the beast a second later it would already have buried its claws in his flesh. The animal was a small female weighing only forty-five pounds, while large ones often weigh a hundred pounds more. Its spotted fur, which was carefully prepared by Prof. Heller, is one of the young sportsman's most valued trophies from his East African hunt.

An adventure with a leopard, which occurred in this neighborhood a short time ago, is told by a famous African hunter. Returning towards evening to his camp, his attention was drawn to a tree on which a crowd of baboons were shrieking with all their might. Since monkeys are preyed on by the

leopard, he concluded that the baboons were directing their wrath against one of the stealthy cats in a near-by thicket. He penetrated a few feet into the jungle, when something ahead of him began to move, while the monkeys followed it in the top of the trees. The thicket grew less dense, and he soon found himself on the edge of a ravine, when he saw, about ninety feet ahead of him, a strong leopard dragging along a half-grown baboon. He raised his rifle, but before he could fire the beast had dropped the monkey and escaped with a mighty leap into the ravine.

The leap of the leopard is so swift that it is very hard to hit him when charging or fleeing. It surely is better for the hunter to let the beast go than merely to wound it. A wounded leopard is a most dangerous enemy when it turns and charges the hunter; its movement, quick as lightning, hardly allows one to take aim. Young Kermit, therefore, fully deserved the praise Mr. Mc-Millan and the proud father bestowed upon him for his quick action and presence of mind in his first thrilling adventure with so formidable a foe.

Another African hunter recounts the following hair-breadth escape from the bloody fangs of a leopard. "On one occasion," he says, "my foolhardiness brought me within an inch of losing my life. I noticed in the sand of the steppe the tracks of a leopard dragging its prey. They led me to the high bank of the ravine washed out by rain. I went all around it and found that the animal had not left it. Soon I made out the leopard lying with its prey, a small antelope, in a hole under the roots of a tree. But the beast had noticed me also. Leaving its prey behind, the leopard tried to steal away; at the same moment I fired. A trail of blood proved that I had hit the animal but not killed it. Going along the high and steep embankment, I noticed the beast cowering, half hidden by the roots of a tree. The distance between us was about seventy-five feet. What happened now was enacted much more quickly than it takes time to describe it.

"At the same moment that I raised my rifle to fire a telling shot, the leopard leaped towards me quick as a flash of lightning. I saw the beast clawing the edge of the ravine and almost touching my feet, and felt that there was no escape possible, and no defense either, when the leopard jumped back into the ravine as quickly as it had attacked me. The sight of my two native companions, who put in an appearance near me just at that moment, apparently had scared the animal as much as its sudden sight staggered my men. Although I did not lose my presence of mind, I did not have time enough to raise my rifle and to shoot; it all happened in a few seconds. A few minutes later a well-aimed shot freed us of all further danger.

"Never shall I forget this experience; I can even now hear the short snarls of the infuriated beast. I was saved through no skill or bravery of mine, but by mere luck."

The leopard has no decided preference for any special locality; its haunts may be found anywhere, on rocky ground as well as in wooded districts—in fact, whenever it finds sufficient cover. It easily climbs trees, and often hides during a hot day in their shady tops. Men have been jumped at and killed by beasts concealed in the foliage, and the natives claim that the leopard is a man-eater. Old male leopards may become man-eaters when they have discovered how easy it is to secure human victims, but leopards generally do not indulge in stealing and eating human beings. Occasionally, however, they do attack them, chiefly women and children.

The cunning leopard roves in untold numbers nightly over the vast velts of East Africa, and will do so long after the strong lion has ceased to exist. The variety known as the cheetah or hunting-leopard is a more rare animal, and is sometimes tamed and kept as a dog around the homestead.

The following interesting facts about the leopard will, no doubt, be appreciated by our readers:

Some years ago a couple of leopards, which lived in England, afforded a strong proof of the innate individuality of these animals. One of them, a male, was always sulky and unamiable, and never would respond to offered kindnesses. The female, on the contrary, was most docile and affectionate, eagerly seeking for the kind words and caresses of her keeper. She was extremely playful, as is the wont of most leopards, and was in the habit of indulging in an amusement which is generally supposed to be the specialty of the monkey tribe. Nothing pleased her so well as to lay her claws on some article of dress belonging to her visitors, to drag it through the bars of her cage, and to tear it in pieces. Scarcely a day passed that this amusingly mischievous animal did not entirely destroy a hat, bonnet or parasol, or perhaps protrude a rapid paw and claw off a large piece of a lady's dress.

The cubs of the leopard are pretty, graceful little creatures, with short pointed tails, and spots of a fainter tint than those of the adult animal. Their number is from one to five. Even in captivity the leopard is a most playful animal, especially if in the society of companions of its own race.

The beautiful spotted creatures sport with each other just like so many kittens, making, with their wild, graceful springs, sudden attacks upon one companion, or escaping from the assaults of another, rolling over on their

backs, and striking playfully at each other, and every now and then uniting in a general skirmishing chase over their limited domains. Even when they are caged together with lions and tigers, their playfulness does not desert them, and they treat their enormous companions with amusing coolness.

The third in point of size of the Old World cats is the leopard, or panther, a species closely allied to the lion and tiger, from whom it is at once distinguished by its color marks and inferior dimensions. Two species of large spotted cats are recognized as inhabiting Africa and India, to

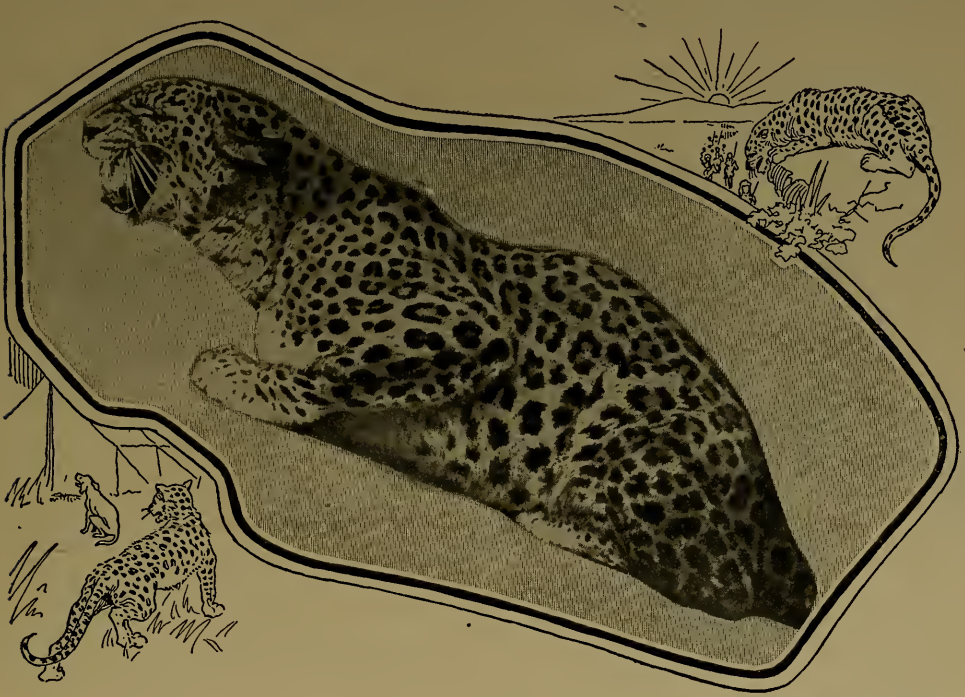


LEOPARDS IN THE JUNGLE.

the smaller of which the name leopard is restricted, while the larger is known as the panther. Although there is an enormous amount of difference between the smallest and the largest of such spotted cats in point of size, yet I find that the change from the one to the other is so gradual and complete that, in a large series of specimens, it is quite impossible to say where leopards end and panthers begin. Hence it appears to me that there is but a single species, for which the name leopard should be adopted. The spotted coat of the leopard being its most distinctive feature, the

animal (in common with the hunting-leopard) is known to the natives of India as the chita, meaning spotted; the leopard, on account of its larger size, being often distinguished as the chita-bagh, or spotted tiger. I have made a careful study of the two animals, and have concluded that they are of the same species. They are as close kin as are the Jersey and Shorthorn or Durham cows.

The differences in the size of individual leopards is so great that while



A PERSIAN LEOPARD AND ITS HABITS.

in the smallest examples the total length of the head, body and tail does not exceed five feet, in the largest it reaches to as much as eight feet. In a large male, of which the total length was seven feet eleven inches, the head and body measured four feet nine inches, and the tail three feet two inches.

The leopard is one of the three larger cats which are common to India and Africa, the other two being the lion and the hunting-leopard. The distribution of the leopard is, however, more extensive than that of the lion, embracing nearly the whole of Asia, from Persia to Japan, but not extending as far north as Siberia.

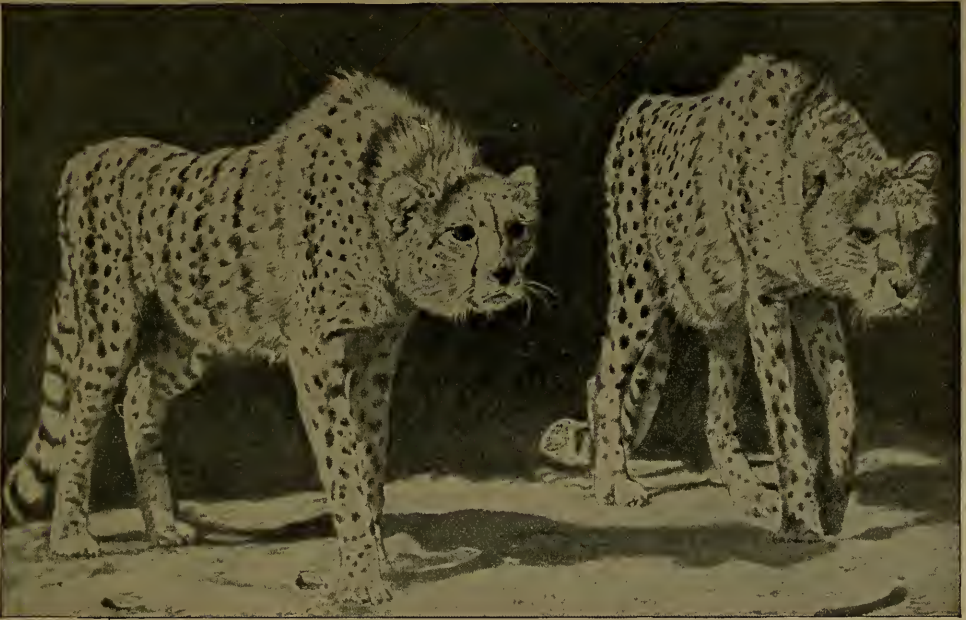
Next to the tiger in India, and to the lion in Africa, the leopard is the most formidable flesh-eating animal to be found in either country. In its habits it differs essentially from both the lion and the tiger in that it is thoroughly at home in trees, running up a straight-stemmed and smooth-barked trunk with the speed and agility of a monkey. Moreover, the leopard is a much more active animal than the tiger, frequently taking tremendous leaps and springs. The Indian leopard, although its powers of offense are far inferior to those of the tiger, is in some respects a more dangerous animal, as it is roused with less provocation, and is more courageous in attacking those who disturb its repose. The favorite resorts of the Indian leopard are rocky hills covered with scrub, among which it seeks secure hiding in caves and under overhanging masses of rock. From strongholds such as these the leopard in Southern and Central India watch the surrounding country towards sunset, and descend with astonishing celerity and stealth, under cover of the rocks, to cut off any straggling animal among the herds or flocks on their return to the village at nightfall. From their habit of lurking in the vicinity of the habitations of man, to prey upon cattle, ponies, donkeys, sheep, goats, and dogs, leopards are frequently brought into collision with Indian villagers; and a leopard being mobbed in a garden, or field of sugar-cane or standing corn, from which he will charge several times, and bite and claw half a dozen before he is despatched or makes his escape, is no uncommon occurrence in India.

This partiality of the leopard for dogs seems to be characteristic of the animal from one end of India to the other, and there are many instances on record where leopards in the hill-stations have swooped down in broad daylight and carried off pet dogs from before the very eyes of their European masters or mistresses. It is but rarely that leopards take to man-eating, but instances do occur, one of which came under my notice some years ago, when a leopard carried off a considerable number of persons from a village in Kashmir. In Africa the general habits of the leopard appear to be very much the same as in India, Sir Samuel Baker relating how, on one occasion, a dog was carried off from the very middle of his camp by one of these marauders.

The leopard has often been tamed, and, indeed, almost domesticated, being permitted to range the house at will, greatly to the consternation of strange visitors. This complete state of docility can, however, only take place in an animal which has either been born in captivity, or taken at so early an age that its savage propensities have never had time to expand.

Even in this case the disposition of the creature must be naturally good, or it remains proof against kindness and attention, never losing a surliness of temper that makes its liberation too perilous an experiment. The very same treatment by the same people will have a marvelously different effect on two different animals, though they be of the same species, or even the offspring of the same parents.

The snow-leopard inhabits the elevated regions of Central Asia. In Ladak it does not descend below the level of some nine thousand feet above



A PAIR OF CHITAS OR HUNTING LEOPARDS.

the sea-level in winter, while in summer it ranges to a height of eighteen thousand feet and upwards. Its long and thick fur is specially adapted to protect the animal against the severe winter cold of the regions it inhabits. The beauty of the fur of a snow-leopard killed during the winter is unrivaled. The animal is probably found all over Thibet, but how far to the westward of Gilgit it extends is at present unknown. It has, indeed, been reported from Persia and Armenia.

Our knowledge of the habits of the snow-leopard is at present but limited, since comparatively few have seen the animal in its wild state. From

living in a practically treeless country, it is probable that it is unable to climb. It preys chiefly upon wild sheep, and goats, and marmots, and other rodents; it wages war upon domestic sheep and goats when grazing upon the higher grounds; and it will likewise, it is said, occasionally attack ponies. It is reported never to molest man.

The hunting-leopard is another representative of the cat family, and differs so markedly in certain respects from all the others that it is now gen-



A YOUNG HUNTING LEOPARD.

erally admitted to rank as a distinct breed. It is generally known to Europeans as the chita.

The hunting-leopard is distinguished by the slenderness of its body, and the great relative strength of its limbs, which are longer than in any of the true cats, not even excepting the lynxes. In length of body it may be compared with the true leopard, although it stands much higher on the legs.

THE CROCODILE

East African Rivers Full of Crocodiles—Hated by the Natives—How the Crocodile is Hunted and Trapped—The Alligator.

While stopping at the Juja ranch with his American friend, Mr. McMillan, Colonel Roosevelt had many chances to see the so much dreaded and detested crocodiles, for the nearby Athi river was full of them, as are indeed all East African rivers and lakes. They would often suddenly plunge in the river when surprised by the hunters or lie floating on the water or on the sandy shores basking in the scorching sunshine.

The hard and scaly covering of the crocodile makes him proof against ordinary rifle bullets, and the shot which tells best on him is the one which hits its head just where the vertebral column begins; it kills instantly.

The crocodile does not seriously interfere with the peaceful progress of civilization in Africa. Its home is the big rivers and the large lakes and it very seldom ventures on an expedition on dry land in search of its prey. Once in awhile it happens upon a native child playing near the river and then no escape is possible. It is hunted exclusively on account of its valuable hide, which is used for making trunks and handbags.

As a pastime during the evenings, says an African traveler who recently has covered the same hunting grounds as Mr. Roosevelt, my men and I fished for crocodiles with line and hook. I had connected an island with the right bank of the river by means of trees cut down on the island and the banks. The trunks of enormous trees and their intertwined tops formed a kind of river-bar, above and below which gathered numerous reptiles. I had some shark-hooks with me. I baited them with large pieces of meat. Whenever I had a bite from an animal, I gave it a long line, about one hundred and fifty feet of thin, strong rope. Then ten or twelve of my men pulled for all they were worth and dragged the crocodile—often weighing a thousand pounds—to the bank. While the saurian was beating the water with its awful tail, I killed it with a shot aimed at a spot just behind the head. The dying animal emitted a sickening smell of musk. I often caught six or more crocodiles in one night. We had to be very careful to keep out of reach of the flexible and powerful tail of the animal. One of my men was particularly eager to catch the hated "mamba"—he had once had a narrow escape from a reptile and had sworn to take revenge on the whole brood. In fact, many natives are maimed by crocodiles, and this huge reptile will not

disdain to prey on human beings, as travelers often have had occasion to observe. A sportsman and naturalist with his caravan was recently on his way back to the Coast after a successful expedition in British East Africa, when one of his blacks, who had drunk too freely of the sweet palm-wine, fell from the small bridge leading across a river. The current carried him off before they could go to his aid and save him from the jaws of a crocodile, which in a moment had dragged him down.

An inexperienced observer may easily be deceived as to the number of crocodiles in a river. They swim along below the surface almost completely hidden from sight, only from time to time they raise their nostrils above the water. When they lie on sand-banks or on the river-shore or on overhanging branches of trees, they disappear as quick as lightning into the water at the slightest sign of danger. They are least shy in the great lakes. Many of them are found in the bogs and inlets of the Victoria Nyanza living rather amicably with the river-hogs and the native fishermen. It appears to the traveler like a picture of paradise to see the reed floats of the natives moving about on the waters peopled by hundreds of reptiles, river-hogs, and birds of all kinds.

It certainly was a picturesque sight that met the eyes of our ex-President when he crossed this beautiful lake among all these marvelous representatives of the animal kingdom of the tropics. In the middle of December the American hunting and scientific expedition crossed the Victoria Nyanza on board the steamer *Clement Hill* bound for Entebbe, the seat of the English governor of Uganda.

The voyage was a delightful one and the steamer flew the United States flag. It was the first time that the stars and stripes had flown over a passenger vessel on the Victoria Nyanza. The Colonel expressed himself surprised at the beauty of the lake and the comfort provided for the steamer's passengers. Our illustration shows the only outlet of beautiful Victoria Nyanza, the headwaters of the Nile, the source of Egypt's life and fertility, which right from under the Equator darts on its course of thousands of miles through ravines, swamps and desert to quench the thirst of millions of people and beasts of the wilds.

The crossing of the Victoria Nyanza marks the second stage of the journey in the interior of Africa. With the passage of the lake the Colonel left behind him British East Africa and entered the Uganda protectorate, the wildest and most beautiful, perhaps the most dangerous, and certainly the most interesting field of his explorations.



THE HEADWATERS OF THE NILE.

In Entebbe they were met at the pier by government officials, who were introduced to the Americans by Chief Secretary Russell. A guard of honor for the visitors was made up of Indian scheiks.

Colonel Roosevelt and Kermit entered a motor car and were driven to the government house, where they were entertained by the governor of Uganda. The Colonel said that his trip from Nairobi had been a pleasant one. At Juja the members of the American mission had gathered at the station and welcomed their countrymen. Another demonstration had taken place at Nakuro, where the settlers cheered during the brief stop of the train.

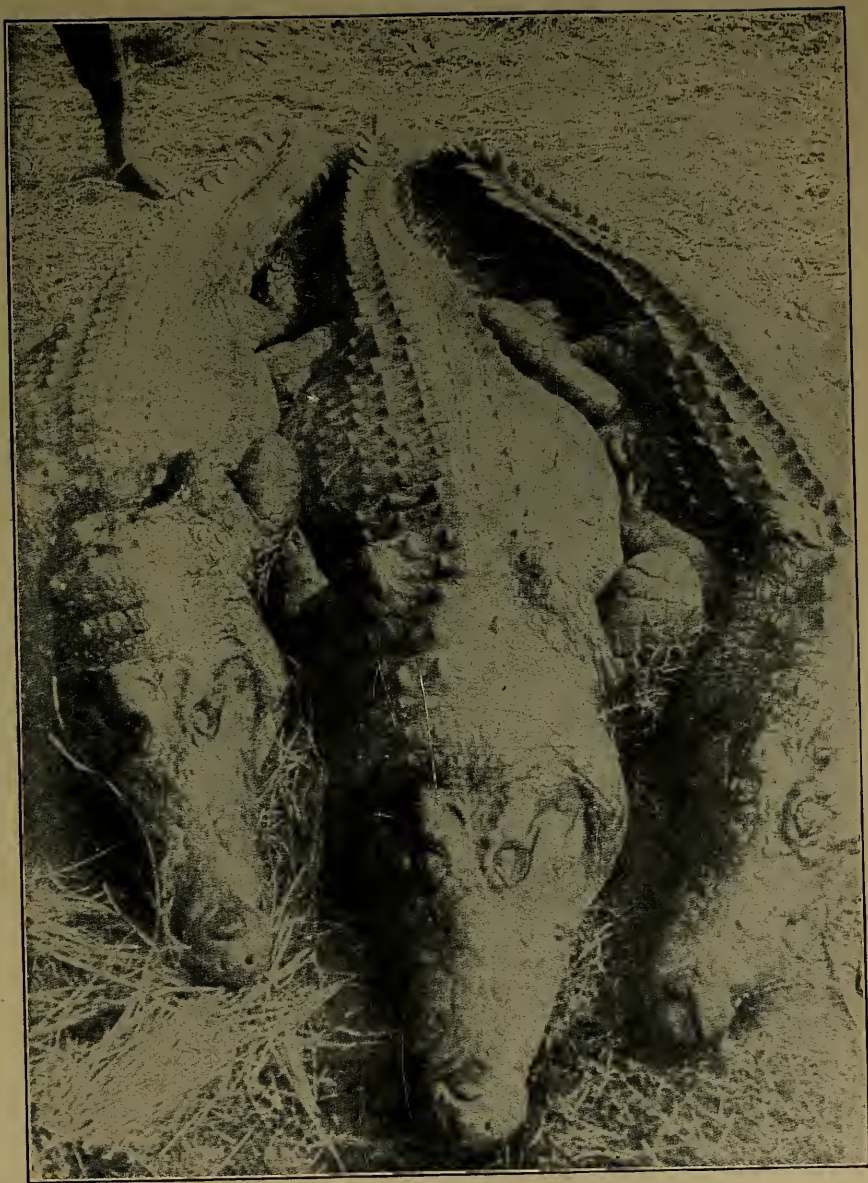
From Entebbe Colonel Roosevelt and Kermit proceeded by motor car along the splendid sandstone road, built by the English, to Kampala, the native capital of Uganda, at the head of the lake, where they rejoined the others of the party, who in the meantime had arrived by steamer in the best of health and spirits and ready to set forth in search of new conquests.

But we return to the crocodile.

I shall treat of the crocodile and alligator in the same chapter, since the habits and general characteristics of one are in great measure similar to the other. During my various journeys it has been my unhappy lot to see eight human beings killed, besides a score mangled by these ferocious creatures. I would sooner attack a lion single-handed than be placed in proximity to one of these man-eating reptiles. The blood-curdling scenes which I have witnessed are still fresh in my memory, and I cannot shake off the feeling of horror they frequently bring to me. These creatures have rightfully been termed the lion and tiger of the reptile world.

The crocodile is an inhabitant of the old world, the alligator of the new, and the two animals are best distinguished by the construction of the jaws. In the crocodiles the lower canine teeth fit into a notch in the edge of the upper jaw, and there is in consequence a contraction of the muzzle just behind the nostrils. The lower canine teeth of the alligators fit into a pit in the edge of the upper jaw, and in consequence no contraction is needed. At the back of the throat is a valve completely shutting out water, but leaving the passage to the nostrils free, so that the crocodile can keep his mouth open when beneath the surface, without swallowing the water, or can hold his prey to drown under the water, while he breathes at ease with his nostrils at the surface. There is no true tongue.

The common crocodile inhabits many African rivers, and is, probably, the reptile infesting the Ganges. The Nile, however, is the best known haunt for this terrible creature.



From photograph.

THREE CROCODILES CAPTURED IN THE ATHI RIVER.

The crocodile feeds on fish, floating carrion, and dogs, or other animals, which it is enabled to surprise as they come to drink at the water's edge, but man frequently falls a victim to its voracity. In revenge for this treatment, all nations persecuted with this pest have devised various methods of killing it. The negroes of some parts of Africa are sufficiently bold and skillful to attack the crocodile in his own element. They fearlessly plunge into the water, and diving beneath the crocodile, plunge the dagger with which they are armed into the creature's belly, which is not protected by the coat of mail that guards the other parts of its body. The usual plan is to lie in wait near the spot where the crocodile is accustomed to repose. This is usually a sand-bank, and the hunter digs a hole in the sand, and, armed with a sharp harpoon, patiently awaits the coming of his expected prey. The crocodile comes to its accustomed spot, and is soon asleep, when it is suddenly roused by the harpoon, which penetrates completely through its scaly covering. The hunter immediately retreats to a canoe, and hauls at the line attached to the harpoon until he drags the crocodile to the surface, when he darts a second harpoon. The struggling animal is soon wearied out, dragged to shore, and dispatched by dividing the spinal cord. In order to prevent the infuriated reptile from biting the cord asunder, it is composed of about thirty small lines, not twisted, but only bound together at intervals of two feet.

When on land it is not difficult to escape the crocodile, as certain projections on the vertebrae of the neck prevent it from turning its head to any great extent.

Human beings have a great dread of this terrible reptile. Many instances are known where men have been surprised near the water's edge, or captured when they have fallen into the river. There is only one way of escape from the jaws of the crocodile, and that is to turn boldly upon the scaly foe, and press the thumbs into his eyes, so as to force him to relax his hold, or relinquish the pursuit.

The Shire River in Africa is very much infested with crocodiles, which at times become very ferocious in their attacks upon the unhappy natives who venture near the banks. This more particularly happens when there is a scarcity of fish in the river, which is the case at flood time, when the fish are driven from their usual haunts. Then it is not safe for any of the natives to show themselves, and to bathe is to court destruction.

I once saw a complete mob of immense crocodiles after one man, who had ventured to bathe, and, of course, for the last time. The reptile which

had secured the unfortunate victim was in his turn attacked by hungry crocodiles, and a fierce fight resulted.

One native, who was smoking at the side of the river, was seized by the hand by a crocodile, and would have been dragged in and devoured had he not very quickly caught hold of a tree which grew upon the bank, and clung with such tenacity that the reptile had to abandon his captive, leaving the deep dent of his jaws on his arm.

In the Upper Nile the favorite haunts of the crocodiles are sandbanks, situated in parts of the river where the current is not too strong. There they may be seen at all hours of the day sleeping with widely opened mouths, in and out of which the black-backed plover walks with the utmost uncon-



GANGES CROCODILE DEVOURING A CHILD.

cern. According to Arab accounts, one and the same crocodile has been known to haunt a single sandbank throughout the term of a man's life; thus leading to the conclusion that these creatures must enjoy a long term of existence, during the whole of which they continue, like other reptiles, to increase in size. In common with this feature of uninterrupted growth, all crocodiles are also distinguished by their remarkable tenacity of life; the shots that prove instantaneously fatal being those that take effect either in the brain itself or in the spinal cord of the neck. It is true, indeed, that a shot through the shoulder will ultimately cause death; but it allows time for the animal to escape into the water, where its body immediately sinks. To

reach the brain, the crocodile should be struck immediately behind the aperture of the ear. Although it is commonly supposed that the bony armor of these reptiles is bullet-proof, this is quite erroneous; if the plates are struck obliquely, the bullet will, however, frequently ricochet.

A remarkable instance of boldness and ferocity displayed by a crocodile of this species was witnessed by me during a journey to Mashonaland. On arriving one evening at the banks of the narrow but rocky Tokwi River, a man named Williams rode in with the intention of crossing. During the passage his horse was carried by the stream a few yards below the landing-place, and just as he reached the opposite bank he was seized by the leg by a crocodile, which dragged him from his horse into the stream. There the reptile let go its hold, upon which the man managed to crawl on to a small island. Immediately his companion rode in to his assistance, upon which another very large crocodile mounted up between him and his horse's neck, and then slipped back, making a dreadful wound on his side and in the horse's neck with its claws as it did so. The river seemed, indeed, to be absolutely swarming with crocodiles; and it was with the greatest difficulty that the unfortunate man, Williams, who ultimately died of his wounds, was brought to bank.

The Ganges crocodile is one of the largest, if not the very largest, of its order, sometimes reaching a length of 35 feet. As its popular name imports, it is a native of India, and swarms in many of the Indian rivers, the Ganges being greatly infested with its presence. It is a striking animal, the extraordinary length of its muzzle giving it a most singular and rather grotesque aspect.

This prolongation of the head varies considerably according to the age and sex of the individual. In the young, just hatched from the egg, the head is short and blunt, and only attains its full development when the creature has reached adult age. The males can be distinguished from the other sex by the shape of the muzzle, which is much smaller at the extremity. There are many teeth, the full complement being about one hundred and twenty. They are similar in appearance, and about equal in length.

The following account of the pursuit of one of these monsters which had recently carried off a boy is abridged from a native newspaper. The hunter, having been summoned, moored his canoe hard by the place where the tragedy had taken place, it being well known that a crocodile which has been successful in securing a victim will generally remain for some days about the spot. Soon the crocodile was descried floating on the water, whereupon

the hunter and assistant hid themselves in the canoe, while the son of the former entered the water, which he commenced to beat with his hands. Catching sight of the boy, the crocodile prepared to dive towards him, upon which the boy took refuge in the canoe. In a moment or so the reptile rose to the surface at the expected spot, where he was saluted with a couple of harpoons, one of which secured a firm hold. After a long chase, in which a number of the inhabitants of the village took part in boats, a second harpoon was safely planted in the head of the monster, who was finally dragged to shore. When opened several gold and silver ornaments—the relics of earlier victims—were found in his stomach.



ALLIGATOR WAITING FOR SOMETHING TO TURN UP.

On the Amazon and Orinoco, as well as other South American rivers, alligators are to be met with in myriads, and appear to be very similar in their habits to the crocodiles of the old world. They grow to a length of eighteen or twenty feet, and attain an enormous bulk. Like the turtles, the alligator has its annual migrations, for it retreats to the interior pools and flooded forests in the dry season. During the months of high water, therefore, scarcely a single individual is to be seen in the main river. In the middle part of the Lower Amazon, where many of the lakes with their channels

of communication with the trunk stream dry up in the fine months, the alligator buries itself in the mud and becomes dormant, sleeping till the rainy season returns. On the Upper Amazon, where the dry season is never excessive, it has not this habit. It is scarcely exaggerating to say that the waters of the Solimoiens are as well stocked with large alligators as a ditch in Indiana is in summer with tadpoles. By the natives of these regions the alligator is at once despised and feared. On one occasion I saw a party boldly enter the water and pull to shore one of these large reptiles by its tail; while at another time two medium-sized specimens that had been captured in a net were coolly returned to the water hard by where a couple of children were playing. Sometimes, however, they have to pay dearly for such temerity. The Indians of Guiana capture the alligator by means of a baited hook and line, the former being composed of several pieces of wood, which become fixed in the creature's jaws.

One of the most remarkable things on the Magdalena River is the number of alligators. Their skins, teeth, and bodies even, might, it would seem, be made a source of profit. When the sun is at the zenith, and the denizens of the forest in silence seek the deepest shade—when no song, no noise is heard—the alligator stretches its monstrous length on the sands, and amuses itself by swallowing the swarms of flies. Then a negro, with his lounging gait, will seek the water to bathe. The alligator marks him. Slowly, clumsily, he moves his uncouth form, and, plowing through the sand, seeks his favorite element to secure his prey. If the negro is unarmed, he eludes pursuit; but if he has kept his keen knife, he awaits his foe. The alligator makes a dash at him. The negro dives, turns and comes up where the alligator started. This maneuver repeated over and over wearies the monster; and the negro prepares for the attack. But where strike this creature, whose scales return a rifle-ball? After a series of movements to disconcert the alligator, he remains quiet. Again the alligator rushes at him. The negro dives so as to let the creature pass over his head, and rising, drives his knife under the shoulder, straight to the heart. But he fights on, and, though the water is reddened with blood, he beats savagely till repeated blows complete the work, and the negro swims ashore, leaving the tide to bear away his trophy.

When the alligator is cebado—that is, in the habit of lurking around a hut, the negro resorts to a novel plan. It requires cool energy. He takes a piece of hard wood, about eighteen inches long, and three or four inches thick, well sharpened, with a sort of shoulder where it begins to taper. When he sees the animal at its post, he crawls slowly up to him, and, resting

on his knee and left hand, holds out as a bait his right hand, which grasps the double-pointed stick. The alligator opens its jaws and shuts them violently on the hand; but finding itself caught, makes in all haste for the river. The negro holds on till the alligator, unable to close its mouth, drowns.

On our voyage up the Amazon we halted, from time to time, when we came in sight of a good place for fishing. It was generally the mouth of some branch, or one of the numerous shallows. We had no difficulty in finding the spot, no need even to ask a native. The flocks of snowy herons, ranged like sentries, or the abundance of long alligators about the spot, announced not only this fact, but the intention of their presence there.

It was curious to watch their proceedings. An Indian, stripping off his bark shirt, creeps slowly through the shallow water toward an alligator with a sling in his left hand and in his right a pole, with a slip-noose at the end of a stout rawhide. Though the alligator sees him coming, it will not attempt either to attack or fly; it lies lazily there, looking steadily with its protruding eyes at the bold hunter, occasionally giving a lazy movement with its powerful tail. It does not seem to notice the noose when actually before its eyes.

The hunter suddenly throws it over the monster's head, and draws it taut with a steady jerk. Then the other Indians, who have been watching, rush on, and with a long, strong pull they all land the creature, struggling to get back, and lashing sand and water with its powerful tail. A few vigorous blows of an ax on the head and tail soon disable it.

It is rather curious that the alligator never seems to rush on its antagonists. A single movement in that direction would scatter them all in a moment. They would drop pole and loop and ax, and run for dear life. The Indians are so expert that accidents from the tail are rare.

They like the flesh, but they begin by cutting out from under the jaws and belly, near the tail, four musk-glands, in pairs, which if left, diffuse their flavor through the whole body. These glands are a valuable article of commerce; and the Indians tie them up carefully and dry them in the sun. Mixed with a little rose-water, the contents of these glands perfume the raven locks of elegant Bolivian ladies at Santa Cruz de la Sierra and Cochabamba, whose nose can stand and enjoy its powerful odor as they do a bull-fight, but who, gracefully as they roll cigaritos and dance their favorite dances, often cannot write their names.



THE STORY OF THE CIVET.

In parts of India, Africa and the Malay Peninsula I have oftentimes had my patience taxed by the conduct of my dogs in leaving the trail they were following to pursue the trail of a civet. The reason why a dog will follow the trail of a civet in preference to any other is that the civet has a scent gland and leaves a highly perfumed trail. In this respect it is like the fox—only more so.

From this scent gland is extracted the perfume which bears the name of the animal, and which was more highly esteemed a hundred or more years ago than it is now.

Civets have longer faces than domestic cats, and their bodies are also longer, but their legs shorter than in the members of that family. The tail is usually marked with six black rings, which are much wider than the intervening white ones; its tip being black. The Indian civet inhabits the eastern side of India, from Bengal to Sikhim, ascending in the last-named district to a considerable elevation in the Himalaya, and it is also found in Burma, in Siam, in Hainan, and in the south of China. This civet is generally a solitary animal, and it hides in woods, bushes, or thick grass during the day, wandering into open country and often coming about houses at night. Not infrequently it is found in holes, but whether these are dug by it is doubtful. It

is very destructive, killing any birds or small animals it can capture, and often attacking fowls, ducks, etc., but also feeding on snakes, frogs, insects, eggs, and on fruits and some roots. Civets take readily to water.

The palm-civets are only abroad at night and live almost entirely in trees. Their food is in part animal and part vegetable substances.

Of the various families of true palm-civets, five are found in India and Burma. In eight of these the tail is considerably more than half the length of the head and body; and in seven of these it is uniformly-colored. The Celebes palm-civet, forming the eighth of this series, is, however, distinguished by having its tail banded with indistinct rings of darker and lighter brown. The imperfectly-known woolly palm-civet of Thibet differs from



AN AFRICAN AND AN INDIAN CIVET.

all the rest in the woolly nature of its fur, and also by the length of the tail not exceeding that of the head and body.

The best known of all is the Indian palm-civet, found throughout the greater part of India and Ceylon. The general color of the coarse and somewhat ragged fur is a blackish or brownish-gray, without any stripes across the back in fully adult individuals. The length of the head and body of a male measured by me was twenty-two and one-half inches, and that of the tail nineteen and one-half inches; the corresponding dimensions of a female being in one instance twenty and seventeen and one-half inches, while in a second both were about eighteen inches.

This species lives much on trees, especially on the cocoanut palms, and

is often found to have taken up its residence in the thick thatched roofs of native houses. I found a large colony of them established in the rafters of my own house at Calcutta. It is also occasionally found in dry drains, out-houses and other places of shelter. It issues forth at dark, living by prefer-



AN AFRICAN CIVET.

ence on animal food, rats, lizards, small birds, poultry, and eggs; but it also freely partakes of vegetable food, fruit, and insects. In confinement it will also eat plantains, boiled rice, bread-and-milk, etc. It is very fond of cock-roaches. Now and then it will commit depredations on some poultry-yard,

and I have often known it taken in traps baited with a pigeon or a chicken. In the south of India it is very often tamed, and becomes quite domestic, and even affectionate in its manners.

One I saw went about quite at large, and late every night used to work itself under the pillow of its owner, roll itself up into a ball, with its tail coiled round its body, and sleep till a late hour in the day. It hunted for rats, shrews, and lizards. Their activity in climbing is very great, and they used to ascend and descend my house at one of the corners in a most surprising manner. This palm-civet is common in Lower B  ngal, and in the gardens of the suburban residences of Calcutta may occasionally be seen in the late afternoon or evening crawling among the leaves of a palm previous to starting on its nocturnal wanderings. That it will sometimes take up its quarters in the very heart of the town of Calcutta is proved by an incident which happened to the present writer when employed on the Geological Survey of India. At that time the office of the survey was situated in a street leading down to the Hoogli River, in the old part of the city. On arriving at the office I found my papers on the writing-table marked every morning with the footprints of some mammal. I thereupon set a trap, which caught a large civet the following night.



PHOTOGRAPHS OF ANTELOPES SECURED FOR MUSEUM.
1 AND 2, MALE AND FEMALE WATERBUCKS. 3, ELAND. 4, HARTEBEEST.

HUNTING THE ANTELOPE

Colonel Roosevelt Bags a Gnu, or Wildebeest, on Sir Alfred Pease's Estate—Excitement and Danger of the Hunt—His First Victim on African Soil—Facts About the Many Varieties of Antelope That Crowd the East African Velt.

Riding on the cowcatcher along the Uganda Railroad Colonel Roosevelt almost seemed to be passing through a zoological garden, so numerous were the representatives of the East African fauna that could be seen from the train. Zebras, gazelles, giraffes, and water bucks were either quietly grazing on both sides of the track or crossing it only a few hundred yards ahead of the train. Agile monkeys were swinging in the branches of the giant trees that formed groves and copses here and there on the velt, and now and then a lightfooted antelope, scared by the steam whistle, would startle and rush



From photo.

NATIVE BEARERS CARRYING WATERBUCK TO CAMP, WHERE THEY WILL HAVE A GOOD FEAST.

from its resting-place under some shadowy sycamore, scampering over the plains almost as fast as the blackcrested ostriches.

Conspicuous among this vast assembly of African beasts was a huge queer-looking ox or cow or horse—or what?—it was not easy to tell how to classify it, for it resembled all three and in addition had the head and mane of an American bison. The Colonel, however, was not slow to recognize in this unwieldy, shaggy beast the East African gnu or wildebeest and he was very anxious to secure a good specimen for the National Museum. No



PHOTOGRAPH OF AN ELAND BULL WHOSE SKIN WAS PREPARED FOR THE MUSEUM.

sooner, therefore, had he pitched camp on Sir Alfred Pease's ranch, in the neighborhood of Kapiti station, than he set out in search of a herd of gnus. His efforts were not long in being crowned with success. A medium-sized herd was espied grazing on the velt. Our Colonel selected a large bull for his target and succeeded, by stalking, in getting within shooting distance. But the bullet failed to secure the prey, and the big bull turned around, galloping away at a speed hardly to be expected in such a clumsy and heavy animal. Leaving it to Kermit to ride down the fleeing bull the Colonel at once selected

a big fat cow for his target. But even now the bullet failed to take effect, and as he had left his "Tranquillity" behind it was a long while until he could overtake the wounded animal. Meanwhile Kermit had got the old bull and thus in a few hours two magnificent specimens were secured for the Smithsonian Institution.

The hunting of the gnu is not entirely void of danger, for this beast has an ugly temper and when brought at bay will show fight. Like our domestic bull it has an irresistible aversion to scarlet, at the display of which color it



AN ELAND PHOTOGRAPHED JUST BEFORE THE FINISHING SHOT.

gets furious, and often makes a vicious charge when a red cloth is hoisted. It was owing to this peculiarity of the gnu that our former President a few days later secured another specimen of the same wary animal. All attempts to get within shooting distance had proved futile. The herd would scamper away on the approach of the hunters to stop at a few hundred yards' distance, inquisitively looking back to see if they were being pursued. This game had been repeated so long that our national hero lost his patience. Suddenly a red pocket handkerchief was seen floating above his head, and on came one of the old bulls in mad fury with mane erect and blazing eye, whisking its streaming tail, butting with its horns in a menacing manner, and displaying such a violent frenzy that the Colonel was fain to strike his colors and have

recourse to his weapons. Crack! A rifle shot resounded through the air and down to the earth stumbled the infuriated beast only a few yards from the ex-President's feet, to be followed the next minute by another maddened bull, for which a second bullet was reserved. In less time than it takes to read this



From photograph.

WATERBUCK SHOT NEAR MACHAKOS.

page two splendid specimens were secured for the National Museum and the Colonel smiled triumphantly to his native gun-bearers, who in many ways showed their admiration for his cold-blooded presence of mind and unprecedented marksmanship.

As the Colonel and his companions were continuing their march they saw herds of hartebeests and other smaller varieties of the great antelope family which are so at home in these regions, but the almost total absence of trees and the desolate appearance of the parched velt, which owing to the dry season was almost void of all vegetation, made stalking very difficult, and the

shy denizens of the wilderness generally succeeded in getting away before our hunters could get within shooting distance.

One of the most graceful antelopes is the waterbuck, which our former President hunted near Machakos. Our illustration shows one of these beautiful animals lying down in the grass. It is about the size of a two-year-old calf, its eyes are large and brilliant, its horns heavy, curved upwards and about three feet in length. The female is hornless and somewhat smaller, but has a mane around the neck like the male. Its flesh is so coarse that it is unfit to eat, and our American hunters, therefore, killed only the specimens needed for their collection.

The antelope family has over seventy different varieties scattered all over the world, and we now proceed to make our readers acquainted with some of them and mainly those which the American hunting expedition met with in East Africa.

No animal in a wild state appeals more strongly to my sympathy than the antelope. I have spent hours watching these timid, harmless, large-eyed creatures, of which there are about seventy different species. The love of the mother doe for her fawn is so tender and gentle as to be almost human, and the absolute faith of the little creature in its mother is ideal.

Although they are so timid and flee at the first approach of danger, there are times when certain species of antelope exhibit a high order of courage. I was once an eye witness to an act of bravery on the part of an antelope, a South African gemsbok, that was equal to that of any animal I know. We were stalking a lion in Cape Colony, when we saw the big beast suddenly crouch in a thicket of wait-a-bit thorns, his gaze intently fixed upon some object at right angles to where we were lying. Looking in the same direction we saw a pair of gemsboks walking unsuspectingly toward the ambush. Just in front of the lion was a huge ant-hill, and toward it came the gemsboks, occasionally twitching their black tails; but that was to rid their flanks of flies and not from any fear of danger.

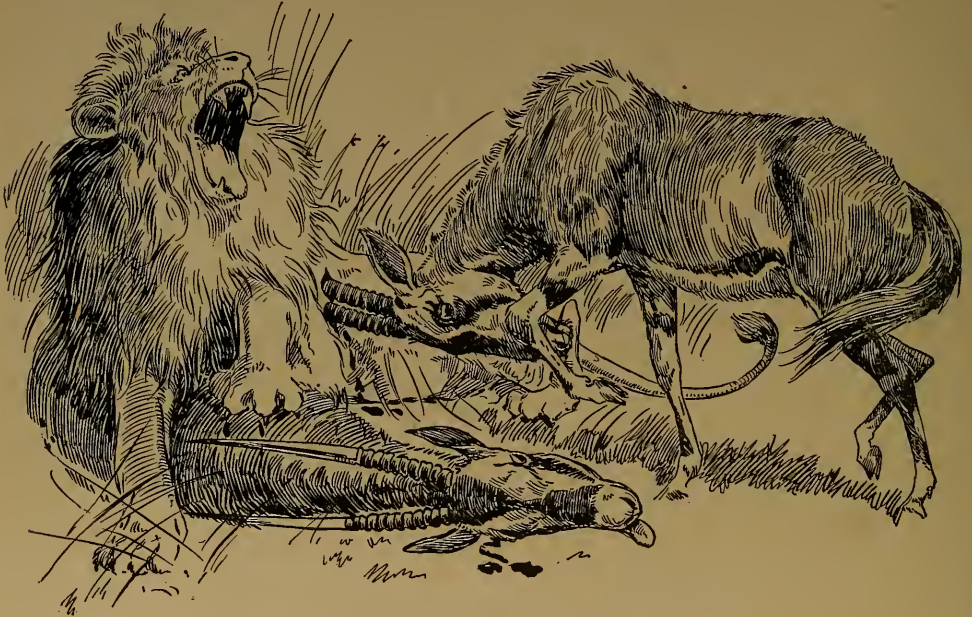
As the antelopes drew near the ant-hill, the lion drew back his head until it was nearly concealed under his black, shaggy mane. They could not have possibly seen him where he lay, nor he them, and he now appeared to trust to his ears to inform him of their approach.

He waited till both were opposite, and broadside toward him, at the distance of less than twenty paces from the hill. Then his tail was seen to vibrate with one or two quick jerks, his head shot suddenly forth, his body

spread out apparently to twice its natural size, and the next moment he rose like a bird into the air.

With one bound he cleared the wide space that separated him from the nearest of the gemsboks, alighting on the hindquarters of the terrified animal. A single blow of his powerful paw brought the antelope to his haunches; and another, delivered almost at the same instant, stretched its body lifeless on the plain.

Without looking after the other, or seeming to care further about it, the lion sprang upon the body of his victim, and clutching its throat between its jaws, commenced drinking its warm blood.



THE GEMSBOK SLAYING THE LION.

It was the bull gemsbok which the lion pulled down, as this was the one that happened to be nearest the hill.

As the lion sprang upon her companion, the cow, of course, started with affright, and we supposed we would see her the next moment scouring off over the plain. To our astonishment she did no such thing. Such is not the nature of the noble oryx. On the contrary, as soon as she recovered from the first moments of alarm, she wheeled around toward the enemy—and, lowering her head to the very ground, so that her long horns projected horizontally in front, she rushed with all her strength upon the lion.

The latter, in full enjoyment of his red draught, saw nothing of this manœuvre. The first intimation he had of it was to feel a pair of spears pierced through his ribs, and it is not likely he felt much more.

For some moments a confused struggle was observed, in which both lion and oryx seemed to take part; but the attitudes of both appeared so odd,



A SOUTH AFRICAN GEMSBOK.

and changed so rapidly, that we could not tell in what manner they were combating. In a few moments the roar of the lion ceased, and we knew that he was dead.

We had crawled closer to witness the result of the battle, and were now within easy range for a shot. One of my Kaffir boys raised his rifle and

aimed at the gemsbok, but before he could pull a trigger, I held up my hand in warning.

"Don't shoot!" I exclaimed at the same time. "That gemsbok is entitled to her life, and as far as I am concerned she shall have it."

We needed venison, too, but I am sure I would not have enjoyed eating that noble heroine.

Antelopes are characterized by their graceful build, and by the head being carried considerably above the level of the back. The horns, which may or may not be present in the females, are generally long, more or less round. They are frequently marked with prominent rings, and have an upright direction. Their bony cores, instead of being honeycombed, as in the oxen, sheep, and goats, are nearly solid throughout. These animals very generally have a gland beneath the eye, by which they are distinguished from the oxen and goats; but, as regards their teeth, some of them resemble the oxen, while others are more like those of the sheep and goats.

THE GEMSBOK.

Under the title of oryx are five species of antelope, found throughout the desert regions of Africa, and also in Arabia and Syria. In South Africa the best representative of the oryx family is the gemsbok, which stands about four feet in height, is greyish in color, becoming white beneath. A black stripe on the flanks divides the grey of the sides from the white below, and there is also a black surface on the haunches extending as a line on the back, and continued over the whole of the tail. In addition to this, there is also black on the upper parts of the limbs, on the front of the legs above the fetlocks, and along the throat; the throat-stripe dividing and running up the sides of the head nearly to the ears. On the face a black stripe runs from each horn through the eye nearly to the muzzle, which is connected by a narrow stripe with a broad black patch on the center of the forehead. The longest male horns of this species I ever saw measured were 42 inches in length, while those of the female may reach $46\frac{1}{2}$ inches. Horns have been recorded measuring $47\frac{1}{2}$ inches.

Gemsboks are generally met with where the country is either completely open or covered with stunted scrub. They thrive and attain high condition in barren regions where it might be imagined a locust would not find subsistence; and, burning as is the climate, they are perfectly independent of water, which, from my own observation and the repeated reports both of

the Boers and aborigines, I am convinced they never by any chance taste. The flesh ranks next to the eland. The gemsbok is by no means fleet, and it can be run to a standstill by a hunter on foot.

In Abyssinia and Somaliland as well as on the Red Sea littoral near Suakin, the gemsbok is replaced by the beisa, readily distinguished by the



FEMALE SABRE-HORNED ANTELOPE AND FAWN.

absence of the tuft of hair on the throat, and by the black patch on the front of the face being completely separated from the stripe running through the eye. The horns are shorter than those of the gemsbok. The sabre-horned antelope differs from the others of the oryx family in its recurved scimitar-like horns, and whitish color which sometimes shows a reddish tinge.

THE ELAND.

The African eland is the largest of the antelope tribe. They vary in color from a tawny yellow to a slaty blue, while in the extreme northern part of their range they are sometimes marked with white stripes. An average-size bull eland stands five feet nine inches at the withers and will weigh from 1,100 to 1,500 pounds.

Eland are found both in the desert-country, and in wooded districts, both hilly and flat. In Nyasaland, their favorite haunts are undulating, well-



A BUCK ELAND.

timbered country, where the grass is not too long, and where there are intervening open plains; as a rule, they visit the plains at night or in the early mornings to drink, and then wander back long distances to the forest, where they spend the hot hours of the day. In the great Kalahari Desert, where they are still common, the eland go a long period without drinking any water, except that which they may obtain by eating watermelons and other plants. Eland are generally found in large herds, numbering from fifty to upwards of a hundred head, but solitary bulls or small parties of bulls are not unfrequently observed.

Elands are generally accompanied by "rhinoceros birds," which, in addition to their natural timidity, make them difficult to approach on foot. Consequently they are generally hunted on horseback. The bulls, when fat, can be easily ridden down by a good horse; but the cows have greater speed and staying power. When pursued, eland frequently leap high in the air. When they have their calves with them, the cows will attack and impale dogs on their horns; but at other seasons both sexes are quite harmless. Mr. Selous states that the flesh of the eland has been very generally over-esti-



A NILGAI ANTELOPE.

mated; and during the dry season, when these animals often subsist entirely upon leaves, it is quite uneatable.

THE NILGAI.

There is not much sport in hunting nilgai, the largest of the Indian antelope. In closely settled districts they are as tame as domestic cattle, and in the unsettled districts where they are shy, they are easily ridden down

by a good horse. They are a poor trophy after they are shot, as the meat lacks flavor.

The nilgai is exclusively a native of India, being entirely unknown even in Ceylon. The animal is peculiar in having the fore limbs longer than the hinder.

Nilgai are found either on the plains or in low hills, generally preferring ground covered with thin bush, among which are scattered low trees, or alternations of scrub-jungle with open grassy plains. They are but seldom met with in thick forest, although far from unfrequent on cultivated grounds.



SOUTH AFRICAN NATIVE HUNTING GNU.

Only the males have horns, which are short, smooth and nearly straight, directed upward and backward. Nilgai both graze and browse, and in the cold season they drink but once in two or three days.

THE GNU, OR WILDEBEEST.

Next to a monkey, I believe the gnu or South African wildebeest, as the Dutch hunters call them, is the most inquisitive of all animals.

In "trecking" across the Transvaal I would frequently come upon herds of twenty to fifty. As soon as they caught sight of us they would begin

curvetting around the wagons, wheeling about in endless circles and cutting all sorts of curious capers.

While I was riding hard to obtain a shot at a herd in front of me, other herds charged down wind on my right and left, and, having described a number of circular movements, they took up position upon the very ground across which I had ridden only a few minutes before. Singly, and in small troops of four or five individuals, the old bull wildebeests may be seen stationed at intervals throughout the plains, standing motionless during a



THE BLUE OR BRINDLED GNU.

whole forenoon, coolly watching with a philosophic eye the movements of the other game, uttering a loud snorting noise, and also a short sharp cry which is peculiar to them. When the hunter approaches these old bulls, they commence whisking their long white tails in a most eccentric manner; then, springing into the air, begin prancing and capering, and pursue each other in circles at their utmost speed. Suddenly they all pull up together to overhaul the intruder, when the bulls will often commence fighting in the most violent manner, dropping on their knees at every shock; then,

quickly wheeling about, they kick up their heels, whirl their tails with a fantastic flourish, and scour across the plain enveloped in a cloud of dust. In addition to their speed, wildebeest are remarkable for their extreme tenacity of life; and, owing to the vigorous use they make of their horns, are awkward creatures to hunt with dogs. Europeans find them good practice in rifle-shooting, as they will stand in herds at a distance which they think secure, say three hundred or four hundred yards, and watch the passer-by. Only occasionally can they be approached within easy range by fair stalking; although they may be killed by watching at their drinking-holes at night. During a thunderstorm of unusual intensity, I walked, hardly knowing where I was going, right into a herd of gnu. I did not see them until I was almost among them; but even had my gun not been hopelessly soaked, the fearful storm made self-preservation, and not destruction, one's chief thought. They were standing huddled in a mass, their heads together, and their sterns outwards, and they positively only just moved out of my way, much the same as a herd of cattle might have done.

The faculty of curiosity is largely developed in the gnu, which can never resist the temptation of inspecting any strange object, although at the risk of its life. When a gnu first catches sight of any unknown being, he sets off at full speed, as if desirous of getting to the furthest possible distance from the terrifying object. Soon, however, the feeling of curiosity vanquishes the passion of fear, and the animal halts to reconnoitre. He then gallops in a circle round the cause of his dread.

The native hunters are enabled to attract a herd of gnus, feeding out of shot, merely by getting up a clumsy imitation of an ostrich, by holding a head of that bird on a pole, and making at their back a peacock's tail of feathers. The inquisitive animals are so fascinated with the fluttering lure, that they actually approach so near as to be easily pierced with an arrow or an assegai.

The gnu, or wildebeest, inhabits Southern Africa. At first sight it is difficult to say whether the horse, buffalo, or deer predominates in its form. It, however, belongs to neither of these animals, but is one of the bovine antelopes. The horns cover the top of the forehead, and then, sweeping downwards over the face, turn boldly upwards with a sharp curve. The neck is furnished with a mane like that of the horse, and the legs are formed like those of a stag. There are two species of wildebeest in South and East Africa. The common, or white-tail wildebeest, is strictly South African, while the blue or brindled wildebeest never goes south of the Orange River.

PALA OR ROY-BOCK.

The pala or roy-bock is an inhabitant of Southern Africa, where it is seen in large herds. It is a remarkably fine animal, measuring three feet in height at the shoulder, and being gifted with elegantly shaped horns and a beautifully tinted coat. The general color of the pala is bay, fading into white on the abdomen, the lower part of the tail, and the peculiar disc of lighter-col-



SOUTH AFRICAN BOSCH BOCK.

ored hairs which surround the root of the tail in so many antelopes. Its specific name, *Melampus*, is of Greek origin, signifying black-footed, in allusion to the jetty hue of the back of its feet.

The horns of this animal are of considerable length, often attaining to twenty inches, and are rather irregular in their growth. They are very distinctly marked with rings.

The food of the pala consists chiefly of tender herbage and the young twigs of the underwood among which it generally takes up its abode. It is hardly so timid as other animals of the same family, and will often allow strange creatures to approach the herd without much difficulty. It has a curious habit of walking away when alarmed, in the quietest and most silent manner imaginable, lifting up its feet high from the ground, lest it should haply strike its foot against a dry twig and give an alarm to its hidden foe. Palas have also a custom of walking in single file, each following the steps of its leader with blind confidence; and, when they have settled the direction in which they intend to march, they adhere to their plan, and will not be turned aside even by the presence of human beings. It is generally found in or near the district where low wood prevails.

THE PRONG-BUCK OR AMERICAN ANTELOPE.

Of all the antelope tribe none affords the hunter as good sport and as fine venison as the antelope found west of the Mississippi River, and known to scientists as the prong-buck or the prong-horned antelope. At one time it was common as far west as California and Oregon, but it is now found only in the Rocky mountain regions and on the plains between those mountains and the northern section of the Mississippi. It is a graceful, light-built animal, standing about two feet ten inches at the shoulder.

The coloration of the prong-buck is decidedly handsome and striking; the general hair of the upper-parts and outer surfaces of the limbs being chestnut. The hair on the back of the neck, which is of the general chestnut tint, is lengthened into a kind of mane. The face is brownish black; but the summit of the head above the eyes, and likewise the ears, cheeks, and chin are white. White also prevails on the lower portion of the throat, the under-parts, and half of the flanks, and extends upwards to form a large patch on the rump which includes the tail. Usually the throat is crossed by three russet-yellow bars. The lower portion of the limbs is white. The horns are black, save at the tips, where they become yellowish; and their usual length is about 12 inches. They are shed once a year.

The prong-buck or American antelope is shy and timid and can outrun the swiftest deer.

In spite of their extreme speed, prong-buck are but poor jumpers, and appear unable to leap over any large object that may be in their path. Their inability to leap over high objects may no doubt be attributed to the fact that they live upon the plains, where they rarely meet with such obstruc-

tions, and so they and their ancestors for untold generations have had no occasion to overleap high obstructions, and thus from disuse they do not know how to do it.

If a prong-buck on the plains desires to cross the railroad track, when alarmed by the cars, as is sometimes the case, he will strain every muscle to outrun the train and cross ahead of it, as if he suspected a purpose to cut him off from crossing; and thus many an exciting race has been witnessed between muscle and steam. When excited during its gambols with its fellows, or by the emotions of rage or fear, the appearance of the prong-buck



PRONG-BUCK, OR AMERICAN ANTELOPE.

alters considerably. On such occasions the hair of the white patch on the rump rises up on each side of the backbone, and remains as erect and stiff as bristles.

There are many stories about the great distance that ostriches can see, but the ostrich is near-sighted when compared with the American antelope. I have never had any difficulty in getting within two hundred yards of an ostrich under favorable conditions, but during my early experience I never got closer than six hundred yards to an American antelope. Even at that distance the animal was wide awake and fully able to take care of itself.

The only antelope that excels the prong-buck in speed is the Indian black-buck. This fact is proved by coursing the animals with greyhounds. A swift and tough greyhound will overtake and pull down a prong-buck, but I have never known one to catch a black-buck in the open.

The hide of the prong-buck is practically worthless on account of the brittleness of the hairs.

INDIAN BLACK BUCK.



INDIAN BLACK BUCK.

The handsomely colored black buck, or Indian antelope, stands about 32 inches at the shoulder. The usual length of the horn varies from 16 to 20 inches. The upper parts of the animal are jet black and the lower parts white.

This antelope never enters forest nor high grass, and is but rarely seen amongst bushes. When not much pursued or fired at, it will often allow

men to come in the open within about one hundred and fifty yards, sometimes nearer. Carts and natives can approach still closer. The black buck feeds at all hours, although it generally rests during the middle of the day. In certain districts, where there is no fresh water except in deep wells, it is certain that these animals never drink; but several observers have proved that in other places they, at least occasionally, drink freely. Like the springbok, the black buck frequently leaps high in the air when running.



THE ADDAX, EGYPTIAN ANTELOPE.

The speed and endurance of these animals are well known; and it is but very seldom that they are pulled down on good ground by greyhounds. In heavy sand, or on soft ground during the rains, they are, however, easily overtaken by good dogs; and wounded bucks may be ridden down. The favorite method of hunting them, however, is with the chita, or hunting leopard.

Young fawns are generally concealed by the does in long grass. The

bucks utter a short grunt, and the does a kind of hissing sound when alarmed.

THE ADDAX ANTELOPE.

The addax, or spiral horned antelope, is a native of Northern Africa, ranging from the Nile to Lake Tchad and Senegal. It is a genuine desert antelope. Sometimes it is called the Mendes antelope, because in the Egyptian temple of Mendes are many images of Egyptian gods wearing head



FEMALE SWAMP ANTELOPE.

dresses of horns which were spiral shaped. The addax is of uniformly light color, with a brownish grey mane. It has a huge tuft of hair on the forehead which looks as if it had received the attention of a hair dresser. The ancient Egyptians kept the addax as a domestic animal.

THE SWAMP ANTELOPE.

The harnessed antelope of West Africa greatly resembles the *kuau* or pigmy antelope. The species shown in the accompanying illustration is

from the Camerun mountains and the Gabun district. This antelope has white spots on the head and stripes on the body, but differs from other horned antelopes in the extremely long hoofs, which are evidently specially adapted for walking on swampy ground. The lateral hoofs are large and elongated. The male stands about three and one-half feet at the shoulder; and is characterized by the absence of a fringe of long hair on the throat, and the



A YOUNG BLESSBOK.

dark olive tint of the coat. In the female the ground-color of the fur is bright rufous, ornamented, as in the male, with white spots on the face and stripes on the body. The horns of the male are generally about 18 or 19 inches in length; measured in a straight line. Little or nothing appears to be known as to the habits of this species in its wild state. Its common name is swamp antelope.

THE BLESSBOK.

The blessbok and the closely-allied bontebok, are smaller South African antelopes. In both species the horns are compressed, with the rings strongly marked. For a short distance they run almost parallel, and then curve backwards. Their usual length is about 15 inches. Both species are characterized by their brilliant purple-red color, and the broad white "blaze" down



A WATER BUCK.

the face, from which the blessbok takes its name. In height the blessbok stands about 3 feet 2 inches or rather more at the withers, but the bontebok may reach from 3 feet 2 inches to 3 feet 11 inches.

The blessboks resemble the smaller springbok in manners and habits. They differ from the latter in the determined and invariable way in which

they scour the plains, right in the wind's eye, and also in the manner in which they carry their noses close to the ground.

The water buck stands upwards of 4 feet or more at the withers, and has long and very coarse hair, which varies in color from reddish brown to dark gray, with an oval ring of white on the buttocks, a white gorget on the throat, a streak of the same color on part of each eye, and some white



FEMALE NILGAI.

near the muzzle. Good horns average about 28 inches along the curve. Water buck inhabit Southern and Eastern Africa to some distance north of the Zambesi; and they are never found in herds of more than twenty individuals. The water buck is most partial to steep, stony hills, and is often found at a distance of more than a mile from the nearest river, for which, however, it always makes when pursued.

The hartebeest of South Africa gets its name from its supposed likeness to a stag.

All these animals differ from wildebeests by their long and pointed heads, ending in a narrow muzzle; their ringed horns, the absence of a mane on the neck or throat, and their shorter and less thickly-haired tail.

The true hartebeest is a South African species, not ranging as far north as Matabeleland and Mashonaland. This fine animal stands about four feet at the withers; its general color being grayish brown, with a pale yellowish



THE HARTEBEEST.

patch on each side of the haunches, and black markings on the forehead and nose. The hair of the face is reversed as high up as the eyes, or even to the horns. The horns are long and boldly ringed, diverging from one another in the form of a V, with their tips directed backwards at a right angle, and the bases curved away behind the plane of the forehead. Their length varies in good specimens from 20 to 24 inches. It is one of the fastest antelopes in Africa, and possesses such strength as to render it almost impossible for anything under a whole pack of strong and swift hounds to bring it to bay.



ZEBRA, OR TIGER HORSE

Colonel Roosevelt Secures a Zebra for the National Museum—Natives Hunt them for Food—
A Herd of Zebras on the Velt—Hundreds of Thousands of them in East Africa.

While Africa has no horses and no tigers, still it has an animal which in some respects at least resembles both and, therefore, has been called the "tiger-horse," or zebra, meaning streaked or banded. These beautiful equines are very numerous in East Africa—some travelers have estimated their number at half a million—and Colonel Roosevelt saw large herds of them along the Uganda Railroad and on the Kapiti Plains. Like the gnu, the zebra is an inquisitive animal. When frightened it will scamper away a few hundred yards and then stop and look around as if to find out who its pursuers are. The Colonel secured several fine specimens of zebra for the National Museum. While he did not find the zebra hunt a dangerous pastime, still it was not entirely void of excitement, for the zebra is exceedingly ferocious and attacks with its teeth anyone approaching sufficiently near, as we may see when we visit our zoological gardens, which usually possess one or more specimens of the African zebra.

Our ex-President found it hard to distinguish these black-and-white striped animals even at close range, for they blend remarkably well with the colors of the velt. Under certain lights they appear greyish, and when they were resting at noon, in the shade of trees and high bushes, the dancing shadows of branches and twigs mingled strangely with their stripes.

The zebra is polygamous, a sort of animal Mormon. The strong stallion

guards his harem jealously. He is not only the lord, but also the protector of his herd. He acts as a sentinel and gives the alarm with a shrill neigh if a beast of prey or a hunter approaches. Then the troop gallops away with a great clatter and in a cloud of dust. The zebra is often also heard to utter a noise like a hoarse bark.

Lately many attempts have been made in British East Africa to tame the zebra and to make it generally useful. Some claim that it is destined to become a useful "beast of burden" and draft animal; in fact, to take the place of our horse, which is useless in the African tropics, as it succumbs unflinching to the climate and the tsetse-fly. And, no doubt, the zebra can be tamed, and may perhaps become domesticated in time, but surely not so soon as enthusiasts would have us believe. This in spite of the fact that a few young animals, some born in captivity, have been broken to drive in fancy carts and carriages. But the moment hard and persistent labor was asked of them, as we do of our horses, they lie down and die of "broken hearts." Meanwhile the British government is trying to solve Africa's horse problem by producing a cross-breed of zebra and horse, which is expected to retain the best qualities of both and at the same time be able to endure the climate.

Says a famous African traveler and sportsman:

My first introduction to the zebra in his wild state was in the hilly country of Eastern Africa. The native hunters of my party wanted some zebra meat, of which they are extremely fond on account of the large amount of yellow fat it contains.

Saddling our best horses, we made an early start. It was ten o'clock, however, before we came in sight of our quarry. The herd comprised about fifty head and was grazing among a mixed herd of antelope and wild goats. A large antelope had been posted as a sentinel and gave warning of our approach. The shrill whistle of the antelope blended with the peculiar neigh of the zebras, which is a mixture of donkey notes and the subdued whining of a dog.

They started for the higher ground and we followed. At first they ran in single file, the stallions ahead, but as we urged our horses faster and drew closer they ran more in a bunch. At last one of the natives got a shot at a fine young filly and put a bullet in her body near the shoulder. She dropped to her knees, but was up again in a flash, and at once obeyed a rule in force among these animals by separating from the herd and running off at right angles. The natives pursued her, overtook her and shot her down.



HERD OF ZEBRAS CHASED BY A LION.

That night they had a great feast. I tasted the zebra flesh, but found it unpalatable. I had shot two fine antelopes, and although I offered my men one of the carcasses, they declined it and ate the zebra instead.

The alternating yellowish-white and brown-black stripes of the zebra, which markings of the skin and hair are more pronounced than in any other of the wild animals, not excepting the tiger, give the name to the animal. Zebraed means banded, and the name is appropriate to the horse-tiger, as the zebra is sometimes called. The haunts of the animal in its natural state are among the mountainous and almost inaccessible regions of



A FAMILY OF ZEBRAS.

Southern and Eastern Africa. Shy by nature, and endowed with wonderful powers of sight, few zebras have been captured alive. The animal is rarely found alone, preferring to travel in large troops.

The three known species of zebra, together with the quagga, form a group agreeing in essential character with the asses, but distinguished by their more or less completely striped heads and bodies. In both these groups the mane is erect, and the upper part of the tail is free from long hairs; while there are naked callosities on the fore limbs only, and the ears

are longer, the head relatively larger, and the hoofs narrower than in the horse.

The true or mountain zebra is the typical representative of the striped group, and is essentially an inhabitant of hilly districts. It is the smallest of the three species, standing from 4 feet to 4 feet 2 inches (12 to 12½ hands) at the withers, and has relatively long ears and a comparatively short mane, with the tail but scantily haired. The general ground-color of the hair



EAST AFRICAN ZEBRA.
(Showing how it is hunted.)

is white, while the stripes are black, and the lower part of the face is light brown. With the exception of the under parts of the body and the inner sides of the thighs, the whole of the head, body and limbs, as well as the upper part of the tail, are striped.

All who have seen zebras in their native haunts speak of the beautiful appearance presented by a drove as they stand for a moment to gaze at the hunter, and then wheel round to seek safety in flight; and as they afford

but unsatisfactory trophies, it seems a pity that so many are killed for the mere sake of sport. When standing on sandy ground in full moonlight, a zebra harmonizes so exactly with the color of its surroundings as to be quite invisible at a short distance.

It is very wild and suspicious, carefully placing sentinels, to look out for danger. Notwithstanding these precautions, several zebras have been taken alive, and some, in spite of their vicious habits, have been trained to draw a carriage. In all probability it might be domesticated like the ass, as the black cross on the back and shoulders of the latter animal prove the affinity between them. In the Transvaal there are many teams made up partly of zebras and partly of mules.

The quagga, so far as color is concerned, forms a connecting link between the zebras and the asses; but in its short ears, and the extent to which the tail is haired, approximates to the horse. In height it stands about the same as the true zebra; in color the upper parts are of a light reddish-brown, with the head, neck and front half of the body marked with irregular chocolate-brown stripes, gradually becoming fainter, until they are quite lost on the hind-quarters. There is a dark stripe running down the back on to the upper part of the tail; but the rest of the tail, together with the under-parts, the inner sides of the thighs, and the legs, are white.

Its actual habitat may be precisely defined as within Cape Colony, the Orange Free State, and Griqualand West. I do not find that it ever extended to Namaqualand and the Kalaharr Desert to the west, or beyond the Kei River, the ancient eastern limit of the Cape Colony to the east.

AFRICA'S GREATEST BIRD

Mr. Roosevelt's Visit to Sir Alfred Pease's Ostrich Farm—The Story of This Wonderful Bird.

While riding on the cowcatcher along the Uganda Railroad, to get a better view of the surroundings than the closed coaches would afford, Mr. Roosevelt had a splendid opportunity to see almost all the various kinds of small and big game that crowd the British game reserve on both sides of the road. Among these were also seen the huge black ostriches so characteristic to the animal life of East Africa. The Colonel did not fail to avail himself of this excellent opportunity to see this interesting bird at close range and to study its habits:

Some of the European residents in tropical Africa have engaged in ostrich farming, and Sir Alfred Pease, who royally entertained our ex-President on his magnificent ranch, located in the middle of the beautiful Kapiti Plains, has a large ostrich farm on his big estate. While Mr. Roosevelt cares more for wild animals and the exciting hunt of dangerous beasts than for the tame ones, still he eagerly embraced this rare chance to inspect an industry which bids fair to become an important factor in the development of Africa and also has proved a success in America.

He found the birds in an enclosure comprising several hundred acres, so as to leave them sufficient space to indulge in their natural habits of running along the sandy ground. About three hundred birds were at the time on the farm, half of them being young ones, while the rest already wore the so-much-coveted plumage which makes this bird so valuable a possession.

The native keepers of the birds entertained the American visitor with interesting stories of their habits, most of them having hunted and captured ostriches in the desert and on the plains.

"The ostrich," one of the Swahili servants said, "has a wary eye and it is very difficult to approach him when he is feeding in the wilderness. But he is a silly bird. When pursued by the hunters he starts to run in the same direction as his pursuers and never turns, apparently hoping to outdo them by his speed, while by going in another direction he could easily escape."

The Colonel noticed that the ostrich's pace, when feeding quietly within its enclosure, measured about twenty inches, and when walking but not feeding, it was six inches more. A keeper chased one of the birds around and

when running at full speed its pace was found to be from eleven to fourteen feet in length. Its speed was so great that it was no more possible to follow the legs than the spokes in a carriage wheel in rapid motion, and Mr. Roosevelt remarked that it must amount to about twenty-six miles an hour, which is somewhat slower than a railroad train.

The ostrich is kept exclusively on account of its valuable feathers. Its flesh is tough and almost black, and unfit for food. One ostrich egg is large



PHOTOGRAPH OF AN OSTRICH'S NEST. THE DARK SPOTS ARE PATCHES OF SAND.

enough to supply a full meal for four persons of ordinary appetite, but their taste is not tempting. The feathers could, until lately, only be obtained from the wild bird, which had to be tracked and hunted by natives, for very few Europeans have succeeded in killing him. Consequently the ostrich plumes were very high priced and so much sought for that the bird was threatened with total extermination. In fact, it has become so rare that it is only a question of time when it will have ceased to be a wild animal, and exist only as a domestic or tame one, like the camel.

Several attempts have been made to train the ostrich so as to render him useful as a carrier of packages and mail between the oases of the deserts, where he is perfectly at home and where his services would be extremely valuable, as he could stand the torrid climate even better than the camel and

run almost as fast as a train. But all such experiments have proved futile. This large and strong bird is too stupid to become Africa's two-legged horse, and its usefulness seems to be confined to supplying our ladies' Easter hats with one of their most valuable and attractive ornaments.



A MISSIONARY SEWING SCHOOL.

While at Sir Alfred Pease's farm Mr. Roosevelt also paid a visit to some of the missionary stations which many English and American churches have established in this uncivilized territory, where about three thousand white men have settled down among and tried to govern 5,000,000 black savages. He was, of course, much interested in the American mission at Machakos, a

former slave station often mentioned in Stanley's early travels. He praised the missionaries for their self-sacrificing and unselfish work, and especially commented upon their laudable efforts to instruct the natives in useful occupations and teach them the domestic virtues, which so much contribute to happiness and are so essential to progress. One of our illustrations shows how the daughters of the savage natives are taught the art of sewing in a recently established sewing school in the vicinity of Kapiti Plains.

The former President and Sir Alfred Pease were entertained at luncheon by the American missionaries. The remarkable progress made by the natives who had been educated by the missionaries and their incomparable superiority over their savage kinsmen, who still were roving around in the surrounding woods, could not but make a deep impression on Mr. Roosevelt. He considers the united efforts to Christianize the African natives now being made by all Christian denominations one of the greatest civilizing agencies now at work in this so long neglected continent with its teeming millions of uneducated and barbarian aborigines.

But we return to the ostrich and its interesting story.

Ostrich farming has become an important industry in several parts of Africa and Asia, and has been introduced recently into the United States and is successfully carried on in Arizona and California. I have frequently had opportunities to study the habits of this bird at these farms. None of the characteristics of the ostrich is as unique as the manner of hiding from a foe adopted by the foolish bird. As it lives chiefly in desert-like districts where the soil is sandy, it experiences little difficulty in burying its head, and this subterfuge is always adopted when flight is not possible. I have often seen a recently captured ostrich watch the approach of a man, and after seeking to escape, it simply dropped to its knees and dug its head into the sand until its eyes were covered. This attitude it would maintain for half an hour, when, looking up and the man being out of sight, it would resume its gambols or feeding. But when flight is possible, it escapes danger by running. Since it cannot run in a straight line, a man on horseback can readily secure it by intercepting its course, instead of riding after it. Its speed is greater than that of the fastest horse.

I have seen a number of large ostriches, one of which measured 4 feet 10 inches in height at the back, and had a total length of 4 feet 3 inches. Ordinary examples reach only about 3 feet 8 inches in height.

The digestion of an ostrich is proverbial, and while in their general diet these birds will eat all kinds of food, they are likewise in the habit of swallow-

ing stones, sand, bones, or even pieces of metal, to aid in digestion. In captivity this habit probably becomes abnormally developed; and I know of instances where even the constitution of an ostrich could not resist the effects of some of the substances swallowed. Among the ordinary food of the ostrich are comprised many small animals, birds, snakes, lizards and insects, as well as grass, leaves, fruits, berries and seeds.

I knew of one that swallowed some broken bits of glass and died in



A MALE OSTRICH.

great agony. It was a female. So devoted was the male that he pined, and died of grief.

The ostrich is chiefly valuable for its plumage, and the Arabians have reduced the chase of it to a kind of science. They hunt it on horseback, and begin their pursuit by a gentle gallop; for, should they at the outset use the least rashness, the matchless speed of the game would immediately carry it out of their sight, and in a very short time beyond their reach. But when they proceed gradually, it makes no particular effort to escape. It does

not go in a direct line, but runs either in a large circle or first to one side and then to the other; this its pursuers take advantage of, and, by rushing directly onward, save much ground. In a few days, at most, the strength of the animal is exhausted, and it then either turns on the hunters and fights with the fury of despair, or hides its head, and tamely receives its fate.

I can attest to the development of the maternal instinct, which many naturalists deny. I once fell in with a troop of about twelve young ostriches



HOW SOUTH AMERICAN OSTRICHES ARE HUNTED.

which were not much larger than guinea-fowls. I was amused to see the mother endeavor to lead us away, exactly like a wild duck, spreading out and drooping her wings, and throwing herself down on the ground before us as if wounded, while the cock bird cunningly led the brood away in an opposite direction.

The ostrich egg will weigh on the average about three pounds, being equal to two dozen ordinary fowl's eggs; yet one of them is not thought too



AFRICAN OSTRICHES.

much for a single man to eat at a meal, and in one instance two men finished five in the course of an afternoon. The approved method of dressing ostrich eggs is to set the egg upright on the fire, break a round hole at the top, squeeze a forked stick into the aperture, leaving the stem protruding, and then to twist the stick rapidly between the hands so as to beat up the contents of the egg while it is being cooked. Within each egg there are generally some little smooth bean-shaped stones, which are composed of the same substance that forms the shell.

In South America the place of the ostriches is taken by an allied group of birds known as rheas, or, as they are often termed, American ostriches. The wings are proportionately longer, and are covered with long, slender plumes. The best known, and at the same time the most abundant, of the three species by which the single genus is now represented, is the common rhea, inhabiting the pampas of Argentina and Patagonia. This species is far inferior in size to the ostrich, but it is the largest of the three. It is generally seen in pairs, though it sometimes associates together in flocks of twenty or thirty in number. Like all the members of this group, it is swift-footed and wary, but possesses so little presence of mind that it becomes confused when threatened with danger, runs aimlessly first in one direction, and then in another, thus giving time for the hunter to come up and shoot it, or bring it to the ground with his "bolas"—a terrible weapon, consisting of a cord with a heavy ball at each end, which is flung at the bird and winds its coils around its neck and legs, so as to entangle it and bring it to the ground.

Although now confined to Africa, Syria, Arabia and Mesopotamia—and becoming every year scarcer in the three last-mentioned countries—there is a probability that ostriches formerly existed within the historic period, in parts of Central Asia and possibly in Baluchistan, since there are several allusions to birds which can scarcely be anything else than ostriches in various ancient writings. Quite apart, however, from this, the evidence of its fossilized remains shows that an extinct species of ostrich, nearly allied to the existing kind, once inhabited North-Western India, and a petrified egg from the Province of Cherson in Russia, points to the former existence of these birds in that country. Originally it is probable that the ostrich ranged in suitable localities from Senegambia in the west, through Southern Morocco, Algeria and Egypt, to Arabia, Syria and Mesopotamia in the east; while in the other direction it extended from Algeria through Central and Eastern Africa.



THE STORY OF THE LIZARD.

In this country there are many harmless species of lizard, but in the Rocky Mountain region are found some that are exceedingly poisonous. The desert lizard, which ranges from Central America to Arizona and New Mexjco, is the only one that has a deadly sting. The fairy-like teeth have grooves for the transmission of the fluid similar to the cobra.

The lizards are usually active, bright-eyed little creatures, delighting to bask in the sun, near some safe retreat, to which they'dart with astonishing celerity upon the slightest alarm. Two species of lizards are found in the eastern and central states—the common lizard and the sand lizard. The latter animal is considerably larger than the common lizard, as it sometimes measures a foot in length. It frequents sandy heaths, and in the sand its eggs are deposited, fourteen or fifteen in number. The eggs are hatched by the heat of the sun, and the young immediately lead an independent life. During the winter this as well as the common lizard hibernates in a burrow usually made under the roots of a tree, nor does it again make its appearance until the spring.

The common lizard is only six inches in length. It is more active than the sand lizard, disappearing like magic on being alarmed. When seized, its tail frequently snaps off like grass.

The heart in man and the higher animals is divided into a double set of compartments, technically termed auricles and ventricles, each set having no

direct communication with the other. In the reptiles, however, this structure is considerably modified, the arterial and venous blood finding a communication either within or just outside the two ventricles, so that the blood is never so perfectly aerated as in the higher animals. The blood is consequently much colder than in the creatures where the oxygen obtains a freer access to its particles.

In consequence of this organization the whole character of the reptiles is widely different from that of the higher animals. Dull sluggishness seems to be the general character of a reptile, for though there are some species which whisk about with lightning speed, and others, especially the larger lizards, can be lashed into a state of terrific frenzy by love, rage or hunger, their ordinary movements are inert, their gestures express no feeling, and their eyes, though bright, are stony, cold and passionless. Their mode of feeding accords with the general habits of their bodies, and the process of digestion is peculiarly slow.

The most peculiar feature of the lizard is the facility with which it is enabled to reproduce lost parts, and more especially the tail. In many lizards, when handled, the tail breaks off without any rough usage, and in all or nearly all it will readily come in two if pulled when the creature is seeking to escape. Such missing portion of the tail is speedily reproduced, and whereas the scaling of the reproduced portion is like the original, in certain other forms this is by no means always the case.

The water monitor is a native of those parts of Africa through which the Nile, its favorite river, flows.

The natives have a curious idea that it is hatched from crocodile's eggs that have been laid on hot elevated spots, and that in process of time it becomes a crocodile. It is almost always found in the water, though it sometimes makes excursions on land in search of prey. To the natives it is a most useful creature, being one of the appointed means for keeping the numbers of the crocodile within due bounds. It not only searches on land for the eggs of the crocodile, and thus destroys great numbers before they are hatched, but chases the young in the water, and devours them unless they can take refuge under the adult of their own species, which the monitor will not dare attack.

When full grown, the water monitor attains a length of five or six feet. The color of this species is olive-gray above, with blackish mottlings. The head is gray, and, in the young animal, is marked with concentric rows of white spots. Upon the back of the neck is a series of whitish yellow bands, of



THE BLACK IGUANA IN A BANANA TREE.

a horse-shoe, or semi-lunar shape, set crosswise, which, together with the equal-sized scales over the eyes, serve as marks which readily distinguish it from many other species. The under parts are gray, with cross bands of black, and marked with white spots when young.

The lizards commonly known as flying dragons are elegant and harmless little creatures to whom such a title seems inappropriate, and therefore I prefer to substitute the name of flying lizards. These flying lizards, which are represented by twenty-one species, ranging over the greater part of the



WATER MONITORS ROBBING A NEST.

Oriental region, are at once distinguished from all their kindred by the depressed body being provided with a large wing-like membranous expansion, capable of being folded up like a fan. The throat is furnished with a large membranous expansion, on the sides of which are a smaller pair; and the tail is long and whip-like. The best known of the species is the Malay flying lizard.

The flying lizards generally frequent the crown of trees, and as they are comparatively scarce, and seldom descend to the ground, they are but



GREEN WALL LIZARDS.

rarely seen. As the lizard lies in shade along the trunk of a tree, its colors at a distance appear like a mixture of brown and gray, and render it scarcely distinguishable from the bark. There it remains with no sign of life, except the restless eyes, watching passing insects, which, suddenly expanding its wings, it seizes with a sometimes considerable, unerring leap. The lizard itself appears to possess no power of changing its colors. When excited, the appendages on the throat are expanded or erected; and the ordinary movements of the creature take the form of a series of leaps.

There is an Australian species commonly known as the moloch, but termed by the settlers the spiny lizard or thorny devil, which seems of peculiar interest to me. This differs from all the other members of the family in being covered with large conical spines. About eight inches in total length, this extraordinary lizard has a small head, with an extremely short snout, on the summit of which are pierced the nostrils. On each side of the head immediately above the small eye is a large horn curving outwards and backwards, while there is a smaller conical spine above the nostril, a second behind the horn over the eye, a third and larger one in front of each ear, as well as one on each side. On the back the spines form ten or more series, of which the outermost are the largest.

Inhabiting Southern and Western Australia, and being not uncommon in several localities in the neighborhood of Port Augusta, the moloch is found only in districts where the soil is dry and sandy. Occasionally two or three may be observed basking in company on the top of a sandhill; and it is the frequent habit of this lizard to bury itself in the sand to a small depth below the surface. Although generally very slow in its movements, it has been known, when disturbed, to make for a neighboring hole with considerable speed.



THE STORY OF THE SHREW.

The shrew family has so many varieties that I will have to confine myself to some of the most interesting and important ones. These elegant little creatures are often mistaken for mice, in fact, they are commonly called shrew mice, although they belong to the family of insect-eating animals, and resemble a mole more than they do a mouse.

With the exception of a few varieties which have taken to a life in the water, the shrews live on the land and are active only at night. They are all covered with fur, generally remarkable for its softness; the head is long, with a sharply pointed snout projecting far in advance of the tip of the lower jaw; their eyes are extremely small and bead-like. They are to be met with throughout the whole of the temperate and tropical regions of Europe, Asia, Africa and North America, as well as on many of the adjacent islands. From their obscure and retiring habits the shrews are difficult of observation; their long and pointed snout, their elastic form, and short and velvety coat enable them to pass through the closest herbage, or beneath the carpets of dry leaves in the coppice and woodland, in which places, as well as in the open fields, whether cultivated or in pasture, they seek their food. But they are not confined to such places, however, as with their relatives, the water shrews, they are often met with in marshy and fen districts. On the other hand, one of the Indian shrews constantly frequents dwelling-houses.

The common shrews are known by their red teeth, the large size of their

ears, and their long tails. The red-toothed shrews are quite unknown in Africa south of the Sahara, and they are only represented in India and the rest of the Oriental region by a single variety.

The common shrew, found abundantly in the British Islands, measures just short of three inches in length, exclusive of the tail, and is usually of a reddish mouse-color, paler beneath, with the tail rather shorter than the body. There is, however, considerable individual variation in color, specimens being sometimes found banded with white. Its food is insects, worms, snails and slugs.

Shrews are so given to fighting that two are rarely seen together except when in a fight, and if two or more are confined together, the strongest will soon kill the others.

The strong scent of the shrew serves to protect it against many foes, but it is not strong enough to disgust the owl, which bird kills and devours shrews with great relish. A cat will kill a shrew but will not eat it.

The varieties of shrews found in the United States are among the smallest members of the family. They spend less time underground, but when they move about on the surface they always seek the cover of fallen leaves and twigs.

The naturalist knows that however cautiously he may move his footsteps put to flight many forms of life that will reappear as soon as quiet is restored; therefore he often waits and watches and stops to listen and observe. While thus occupied, it sometimes happens that a slight rustling reaches his ears. There is no wind, but his eyes rest upon a fallen leaf that seems to move. Presently another stirs, and perhaps a third turns completely over. Then something like the shadow of an embryo mouse appears and vanishes before the eye can catch its perfect image. Anon the restless phantom flits across an open space, leaving no trace behind. But a charge of fine shot dropped with quick aim upon the next leaf that moves will usually solve the mystery. The author of the perplexing commotion is found to be a curious sharp-nosed creature, no bigger than one's little finger, and weighing hardly more than half a drachm. Its ceaseless activity, and the rapidity with which it darts from place to place, are truly astonishing, and rarely permit the observer a correct impression of its form. Whenever a tree or a large limb falls to the ground these shrews soon find it, examining every part with great care, and if a knot-hole or crevice is detected, leading to a cavity within, they are pretty sure to enter, carry in materials for a nest, and take formal possession. Not only are these agile and restless little shrews voracious and almost insati-



WATER SHREWS.

able, consuming tremendous quantities of raw meat and insects with great eagerness, but they are veritable cannibals withal, and will even slay and devour their own kind.

The marsh-shrew from the Rocky Mountains, together with the swimming shrew from one of the Aleutian Islands, differ from the other members in having their feet provided with fringes of long hair.

Another variety of the red-toothed family is the short-tailed shrew found in the Adirondack Mountains.

The water-shrew, although unknown in Ireland, is found all over England and the south of Scotland. It likewise occurs over a large area of continental Europe, from whence it extends eastwards into Asia as far as the Atlas range. In the water these graceful little creatures are as much at home as water-voles or beavers; and in clear streams they may be observed during the day diving or running along the bottom, and turning over the pebbles with their sharp noses in search of fresh-water shrimps, which appear to constitute their favorite food. In addition, the water-shrew devours many kinds of water insects or their larvæ, while it is also probable that it likewise preys on the spawn or fry of minnows and other small fish. There are, moreover, several instances on record where water-shrews have been found feeding on the flesh of larger animals, which they have found dead. The burrows of the water-shrew are made along the banks of ponds and streams.

The largest of the shrews is plentiful in India and is known as the musk-shrew, of which there are two varieties, brown and gray. The brown musk-shrew is found as a rule in woods (although it will occasionally enter buildings), the gray musk-shrew generally haunts human habitations. The gray musk-shrew is a common visitor to Indian houses. During the day it lies concealed in holes and drains, issuing forth at night to hunt over the floors of rooms for cockroaches and other insects; while thus engaged it utters from time to time a short, sharp squeak. In respect of its insect-eating habits, this musk-shrew is a benefactor to mankind; but these benefits are accompanied by the drawback that various articles may be so impregnated with the musky secretion of the animal as to become utterly useless. There has, however, been much exaggeration as to the penetrating power of this scent, the well-known but absurd story that wine or beer becomes impregnated with a musky flavor from the circumstance of one of these shrews having run over the outside of the bottle containing such liquor, being a case in point.



STORY OF THE HEDGEHOG.

School children in England become familiar with a strange little animal that is rarely seen in this country, although it inhabits parts of Africa and Asia. It is the hedgehog, or urchin, which is guarded with spikes. These spikes are fixed into the skin in a very beautiful and simple manner. When the hedgehog is annoyed it rolls itself up, and the tightness of the skin causes all its spines to stand firm and erect, bidding defiance to an unprotected hand. While rolled up, even the dog and the fox are baffled by it; but their ingenuity enables them to overcome the difficulty by rolling it along until they push it into a puddle or pool, when the astonished hedgehog immediately unrolls itself to see what is the matter, and before it can close itself again is seized by its crafty enemy.

Many more fortunate animals have outlived the aspersions cast upon their character by ignorant persons, but the prejudice against the hedgehog is still in full vigor in the agricultural districts. Scarcely a farmer or a laborer will be persuaded that the hedgehog does not suck the cows. Now this is an impossibility for the hedgehog. The food of the hedgehog consists not of cow's milk, but insects, frogs, mice and snakes. I once placed a snake in the same box with a hedgehog. The hedgehog gave the snake a severe bite, and then rolled itself up, this process being repeated until the spine of the snake was

broken in several places; it then began at the tail, and ate the snake gradually, as one would eat a radish.

The hedgehog also feeds on earthworms, slugs and snails, and in destroying the latter it may certainly be regarded as a friend to the gardener. The consumption of earthworms is performed in a rather curious manner. These animals are seized when they are enjoying the damp freshness of the air out of their holes, in summer evenings, and slowly passed into the mouth of their enemy from one end to the other, apparently by the simple process of mastication with the molar teeth, the unconsumed portion of the worm being constantly transferred from one side of the mouth to the other, so that both sides of the jaw may come into play. This must be an unpleasant operation for the worm, much as its captor may enjoy it. It is uncertain whether the larger snails are eaten by the hedgehog, but the smaller species certainly form a portion of its diet.

The new-born young are almost naked, and their imperfect spines are soft, flexible and white, although rapidly hardening in the course of a few days. They are at first totally blind, and quite incapable of rolling themselves up. The nest in which the young are born is carefully constructed, and is said to be always protected from rain by an efficient roof. In winter the European hedgehog hibernates completely, laying up no store of food, but retiring to a nest of moss and leaves, where, rolled up in a ball, it lies torpid till awakened by the returning warmth of spring.

The flesh of the hedgehog is said to be good eating, and the Gypsies frequently make it a part of their diet, as do the people in some parts of the continent.

There is a peculiar method of preparing the animal for food, strongly reminding one of the earth ovens used by the Polynesians. The hedgehog is simply wrapped up in a mass of clay and put on the fire. In process of time the clay is thoroughly baked, and cracks open, when the hedgehog is supposed to be cooked. On opening the clay, the skin comes off with it, while the insides of the animal have formed themselves into a hard ball, and are taken out entire. By this method of cooking the juices are retained, and not suffered to dissipate, as they would if it were roasted.

The common hedgehog is characterized by the short and almost imperceptible neck, the pig-like snout, from which it derives its popular name, and also by the shortness of its limbs. Exclusive of the short naked tail, which measures about one and one-half inches, an average-sized hedgehog is about ten inches in length. The great peculiarity of all the hedgehogs is the power

they possess of rolling themselves up into a ball-like form, presenting an array of spines, impenetrable to the great majority of other animals. This rolling-up process is effected by the aid of an extraordinary development of a layer of muscles found beneath the skin. When rolled up, the head and feet are tucked inwards, so that only the spines are exposed; and it requires a bold dog or fox to attack a hedgehog when in this condition. Under the microscope the spine is seen to be marked by a number of parallel grooves.

Hedgehogs are represented by five distinct varieties in India. It is remarkable that while one of these hedgehogs is found in Madras, no repre-



EUROPEAN HEDGEHOGS.

sentative is recorded from the Central Provinces and Bengal, the other species not occurring till we reach the North-West Provinces, the Punjab, etc. But little is known of the habits of these Indian species, and nothing as to their breeding; although it is probable that in both these respects they conform closely to their European cousin. The long-eared Afghan hedgehog common in the neighborhood of Kandahar and Quetta, hibernates, but the species from the Punjab and Southern India are active at all seasons of the year, thus showing how absolutely dependent is the habit of hibernation upon climate. The collared hedgehog found in the plains of North-Western India, inhabits

sandy country, hiding in holes beneath thorny bushes or in tufts of grass during the day, feeding chiefly on insects, especially a species of *Blaps*, and also on lizards and snails. It makes a grunting noise when irritated, and when touched suddenly jerks up its back so as to throw its spines forward, making at the same time a sound like a puff from a pair of bellows. The Afghan hedgehog feeds on the slugs and snails so common in the fields around Kandahar, as well as worms, insects and lizards. It hides during the day in holes; and hibernates from the end of October or beginning of November till February.

Young hedgehogs are pretty little creatures. The mother generally produces from four to six at a birth. In color, they are, at first, a rose-white. When they get to be the size of a hen's egg, their prickles are well developed. The mother nurses them for a short time only, and then leaves them to shift for themselves, which they are well able to do.

Hedgehogs are particularly fond of cockroaches, and people in England often keep them in the kitchen to destroy these pests.

I once saw a hedgehog roll itself into a ball and drop a distance of fourteen feet into an area way without doing itself the least damage. This gives a very good idea of the strength of the prickles in its skin.



STORY OF THE WILD GOAT.

I have hunted the wild goat in the Rocky Mountains, in equatorial Africa, in bleak Siberia and in the lofty Himalayas. In each of these widely separated districts the animal shows the same general characteristics and the hunter must needs use great caution if he hopes to secure his quarry.

The so-called goat of the Rocky Mountains is about the size of a large sheep, and averages one hundred pounds in weight. It has very short and stout legs, terminating in broad and blunted hoofs, pointed ears and jet black horns, curving backwards, and ringed for about half their length, but smooth above this. The body is covered with a long coat of white hair, which is nearly straight, and falls on the sides of the body and limbs, but is erect along the middle of the back, and as it becomes longer over the withers and haunches the animal looks as though it had two humps. Beneath the hair there is a thick coat of wool. In length the horns vary from six to ten and one-half inches.

The range of this animal extends through the Rocky Mountains from about latitude thirty-six degrees in California at least as far north as latitude sixty-two degrees. I believe that it will be found as far north as the mountains reach. It is extremely abundant in British Columbia, ranging from its southern boundary to the watershed of the Arctic Ocean, and from the coastline to the Rockies. Here, amid nature's wildest scenes, amid storm-swept

cañons and beetling crags, amid steel-blue glaciers and snowy peaks, where the silence is seldom broken save by the rush of mountain torrent, the howling of the storm, or the crashing of the treacherous avalanche—here, far removed from the trail of the ordinary hunter, the mountain-goat, solitary in its habits, and contented with its chaotic and gloomy surroundings, increases and multiplies.

Its sure-footedness and its boldness are proverbial, as is its unpleasant



SPIRAL-HORNED GOAT OF AFGHANISTAN.

odor. The power possessed by the goats of ascending very steep heights is marvelous. On more than one occasion I have seen—contrary to the teaching of Æsop—that when two individuals have met on a path too narrow for both to pass, one has lain down in order that the other might go over his back.

The Spanish wild goat inhabits the Pyrenees, the ranges of Central Spain and the mountains of Portugal. The animal seeks the highest ridges and peaks of the mountains during the summer, but in winter the doe comes to

the valleys, often to the villages. Far up among the snow-covered heights can be found the old bucks, who disdain seeking shelter from the storms.

When feeding or reposing, sentinels are placed in commanding positions to apprise the flock of approaching danger, which they do by means of a loud snort, upon which the whole company at once takes to flight.



ALPINE WILD GOATS.

Probably the most active of the wild goats is the pasang of Persia, from which species the various breeds of domestic goats are derived. This species has long scimitar-like horns, much compressed, with the front edge forming a sharp keel. It frequents craggy and rocky districts, taking leaps of great length with unerring precision. In spite of the constant persecution to which

it is subjected, it exists in vast numbers. On the Kuh-i-barf, a not very lofty or extensive hill, constantly shot over, near Shiraz, I once counted over a hundred in a herd, which had been driven together by two days' consecutive fusillade. It is marvelously shy and wary. In my earlier residence in Persia I spent many a weary day after them, but never managed to bag a buck. Even native sportsmen, though admirable shots and thoroughly familiar with every nook and cranny of the hills, rarely get one by fair stalking; most of those killed being obtained by building a wall of loose stones near water and shooting the goats when drinking. The males drink in the morning and evening only, but the females, in hot weather, at least, drink also at midday. Sixty miles north of Shiraz I came suddenly upon a herd of twenty or more does and kids, drinking by the roadside, a couple of hundred yards from the foot of the hills. Except when alarmed, bucks and does seem to keep apart.

In Baluchistan these goats inhabit barren rocky hills, but in parts of Asia Minor they are found on forest-clad uplands. In such localities they may often be found within hearing of the drovers on the roads, or even of the railways; but this confidence is accompanied by exceeding watchfulness. The number in a flock in these districts is generally from four to ten, and at the time of my observations bucks and does were found together. Sentinels are almost always posted to warn the flock, these being relieved at short intervals; and it appears that this sentry-duty is undertaken according to seniority, the youngest animals commencing first, and the oldest buck taking his turn last. In Asia Minor pasang are hunted both by driving and by stalking; but they are so cunning that the former method is not generally very successful. The Cabulis hunt them on the lower ground of Afghanistan with greyhounds.

The bezoar-stone, so highly esteemed in Persia as an antidote to poison and a remedy for several diseases, is a concretion found in the stomach of the pasang, from whence it derives its old European name of Pazen, or Pasen.

The wild goats of the Isle of Giura are probably derived from a domestic race, perhaps crossed with the pasang. Goats have also run wild in many other places, more especially mountainous islands like St. Helena, Tavolara near Sardinia, and Juan Fernandez. In St. Helena these wild goats have completely destroyed a large portion of the native flora, and this has resulted in the disappearance of much of the fauna. Goats were introduced by the Spaniards into Juan Fernandez in the year 1563. These soon increased enormously, and in order to diminish their numbers dogs were subsequently let loose, and likewise ran wild.

AARD-VARK, OR ANT-BEAR

The Ugly and Ungraceful Earth-Hog—Has a Long Prehensile Tongue—Found on the Roosevelt Hunting Grounds in East Africa.

During the rainy season the high and extraordinary large termite-hills found on the East African velt are visited at night by a strange animal, which spends its days underground. It is a grotesquely formed creature with the snout of a pig, the head of an ant-bear, the ears of an ass, the legs of an armadillo, and the body of a kangaroo—a kind of a composite animal such as the imagination of fanciful artists, painters and writers may conceive. With its long tail and sharp claws it beats and tears to pieces the ant-hills, and with its long and sticky tongue it collects myriads of ants and swallows them.

The earths, or burrows, which are often very deep and wide-spreading, are a constant danger to hunters, as the Colonel and his companions more than once had a chance to observe when riding over the velt or stalking, for they often suddenly felt themselves sinking into the ground up to their waists, as the openings were frequently concealed beneath bushes and difficult to avoid.

When in South Africa among the Boers, I frequently shot those ugly and ungainly animals the Boers call aard-varks, or, in English, earth-pigs. It is not always easy to get a shot at one, for they are keen of hearing, and rush to their burrows at the slightest unusual sound. When unable to reach their burrows, they dig into the ground where they happen to be, and they are so powerful that they can soon sink their large bodies out of sight even when the ground is hard and sun-baked.

The body of the aard-vark, which is usually almost naked, but sometimes thinly clad with bristly hairs, is heavy and ungainly. The long muzzle of the head is almost a trunk; the ears are of great length, and the tongue can be extended like that of the pangolin, although it is not so worm-like. The skin is of remarkable thickness, its general color being yellowish brown, with a tinge of red on the back and sides, while the head and under-parts are light reddish yellow; and the hind-quarters, the root of the tail, and the limbs brown. A full-grown aard-vark measures a little over six feet in total length.

The teeth of the aard-vark differ from those of any other known animal. The Cape aard-vark inhabits South and South-Eastern Africa; it is replaced in North-Eastern Africa by the Ethiopian aard-vark; the former being distinguished by the thicker coating of hair, more especially on the back and flanks, as well as by the thicker and shorter tail, and the longer head and ears.

The aard-varks feed exclusively on termites and ants. In South Africa their deep burrows are generally constructed in the neighborhood of the tall mounds formed by the termites; and, in the old days, before these animals were hunted for their skins, it used to be said that wherever termite-hills were numerous, there an aard-vark might confidently be expected. Wherever these animals are abundant, a number of half-formed holes are seen in the ground and on the sides of the ant-hills, which have been commenced and abandoned. Aard-varks usually spend the whole of the day asleep in their burrows, but



THE AARD-VARK AND ITS HABITS.

may occasionally be seen abroad in the early morning. In digging, they work with their fore-feet, and throw out huge clods of earth between their hind-legs. But little definitely is known as to their breeding-habits, although it has been ascertained that the Ethiopian species gives birth during May or June to a single offspring. At birth the young is naked and flesh-colored; and is suckled by its parent for a long period.



STORY OF THE PANGOLIN.

In Africa, south of the Sahara desert and in some parts of India, I have often come across an animal which always made me think of a huge pine cone supplied with a head and legs. This animal is known as the pangolin, which feeds upon ants, although belonging to a different family from the true ant-eaters. The whole upper surface of the body, the sides and the tail are covered with large overlapping horny scales. The limbs are short, with five toes. Its long worm-like tongue is capable of being extended a great distance from its mouth.

The largest pangolins reach a length of six feet. They are burrowing animals, and are only abroad at night. They can roll themselves in a ball like the other ant-eaters, and when they are thus rolled up their muscular strength is something enormous.

Asia is inhabited by three species of the family, namely, the Indian pangolin, confined to India and Ceylon; the Chinese pangolin, ranging from Nipal and Assam to China; and the Malayan pangolin, inhabiting the regions to the westward of the Bay of Bengal as far as Celebes, and also occurring in North-Eastern India.

The habits of all the three kinds are similar, although the Malayan species is probably less of a burrower than the others. The Indian pangolin dwells either among the crevices and clefts of rocks, or in burrows of its own construction; such burrows extending to a depth of from eight to twelve feet below the surface, and ending in a large chamber, which may be as much as six feet in diameter. Here a pair of these animals take up their abode, and in the winter or early spring give birth to their young. The young, which are one or two in number, are covered with soft scales at birth, which harden on the second day, but it does not appear to be ascertained whether they are born blind. When inhabited, the entrance to the burrow is stopped with earth; and it is rarely that its occupants are seen abroad after sunrise. The food



THE PANGOLIN.

consists chiefly of termites; the pangolin tearing open the nests of these insects with its powerful front claws, and thrusting its long glutinous tongue into their runs. The tongue is rapidly withdrawn with a swarm of the white ants clinging to it. In captivity pangolins will readily eat finely-chopped raw meat, hard-boiled eggs, and rice. Their stomachs have a somewhat gizzard-like structure; and frequently contain a few small pebbles, probably introduced to aid in tritulating the food. In captivity pangolins drink freely by rapidly extending and withdrawing the tongue. I doubt whether this habit is natural to them, as they are often found in places where there is no water. When irritated, pangolins will give vent to a hissing sound, but at other times they are silent.



THE STORY OF THE TENREC.

There lives in Madagascar an insect-eating animal which has many of the characteristics of the hedgehog. The name tenrec is given the group, which comprises several species. They are defended with spines, and can roll themselves into a ball as the hedgehog does. I have watched the creature defend itself against the attack of a dog and do it so successfully that the dog retired howling with pain.

These animals are a great pest to the agriculturists of Madagascar, owing to the damage they inflict on the rice crops by burrowing in the earth beneath the young plants in search of worms and insects.

They pass one-half of the year in a state of torpidity. About May or June they dig themselves holes, in which they sleep until December, with their heads comfortably tucked away between the hind legs. Their burrows are generally betrayed by the presence of a small heap of earth or moss thrown up at the entrance. The animals at this time are very fat, and are regarded as great delicacies by the natives of Madagascar. The inhabitants hunt the tenrecs with dogs, trained expressly for the purpose. They live chiefly in the mountains, in places covered with mosses, ferns and bushes. Their food consists principally of earthworms, which they rout out by means of their feet and pointed snouts, using the latter after the fashion of a pig. Insects also form a part of their diet; and like the hedgehogs, they feed upon certain

fruits and roots. In captivity they will eat raw meat, and are also said to be fond of bananas. They sleep nearly all the day, and come forth in full activity only at night.

The true tenrecs have a body much longer than the hedge-hogs, and their bristles are less rigid, the spines being covered with soft, silky hair. The head is shaped like that of the pouched animals. It is found not only



THE TENREC AND ITS HABITS.

in Madagascar, but also in the islands of Bourbon and Maurice, but it was probably carried to the latter island by the colonists. It is tailless, about twelve inches long, and of a fawn color. The second species has rather strong prickles, and is of a grayish-black color.

The spines of the tenrec are like stiff pointed bristles, and are by no means so strong as those of the hedgehog.

HUNTING THE GAZELLE

Colonel Roosevelt Secures a Thompson Gazelle for the National Museum—Many Varieties of the Gazelle Family—East Africa's Most Graceful Animal.

Riding along the vast plains around Sir Alfred Pease's ranch Mr. Roosevelt and his companions saw herds of hartebeest and troops of the smaller varieties of the gazelle family, but the absence of trees made stalking very difficult, and the shy denizens of the velt gradually succeeded in getting away before our hunters could get within shooting distance.

Mr. Roosevelt was especially anxious to kill one of the beautiful Grant's gazelles for the National Museum in Washington, but this wary and light-footed animal eluded all his attempts and after several hours' exhausting pursuit he had to give it up for the time being. But he succeeded in shooting a Thompson gazelle, a smaller variety of the great antelope family.

The two kinds of gazelles most frequently seen by the American hunting expedition in East Africa were the Thompson gazelle and the Grant gazelle. The latter one is a beautiful large animal and was discovered in 1860 by Grant in the vicinity of the Victoria Nyanza, while the smaller variety killed by Mr. Roosevelt was not known to European naturalists until the English traveler, Thompson, found it twenty-five years ago.

The stately male Grant gazelle is adorned with long and beautifully bent horns, those of the female also being long but not quite so heavy. This species is spread all over British East Africa and runs in herds of many animals. The herds are in general separated according to sex; the female herds, however, mostly being accompanied by one or more bucks. The Grant gazelle inhabits the open plains, avoiding the thick forests, but frequents localities thinly covered with bushes. It feeds not only on grass, but also on leaves and fruits.

While the Grant gazelle is very shy and cautious still it is not entirely safe to pursue it too incautiously. The hunter may come dangerously near to being impaled on its pointed horns. A famous naturalist narrowly escaped this fate a short time ago. Resting in the neighborhood of the Meru mountain he suddenly saw, in the distance, a single gazelle. He stalked it, and fired at it, at a distance of about nine-hundred feet, but only wounded the animal. He was greatly astonished when he saw it running towards him instead of from him as he had expected. He fortunately succeeded in killing the enraged animal by a second shot.

The smaller variety known as the Thompson gazelle, which was killed by

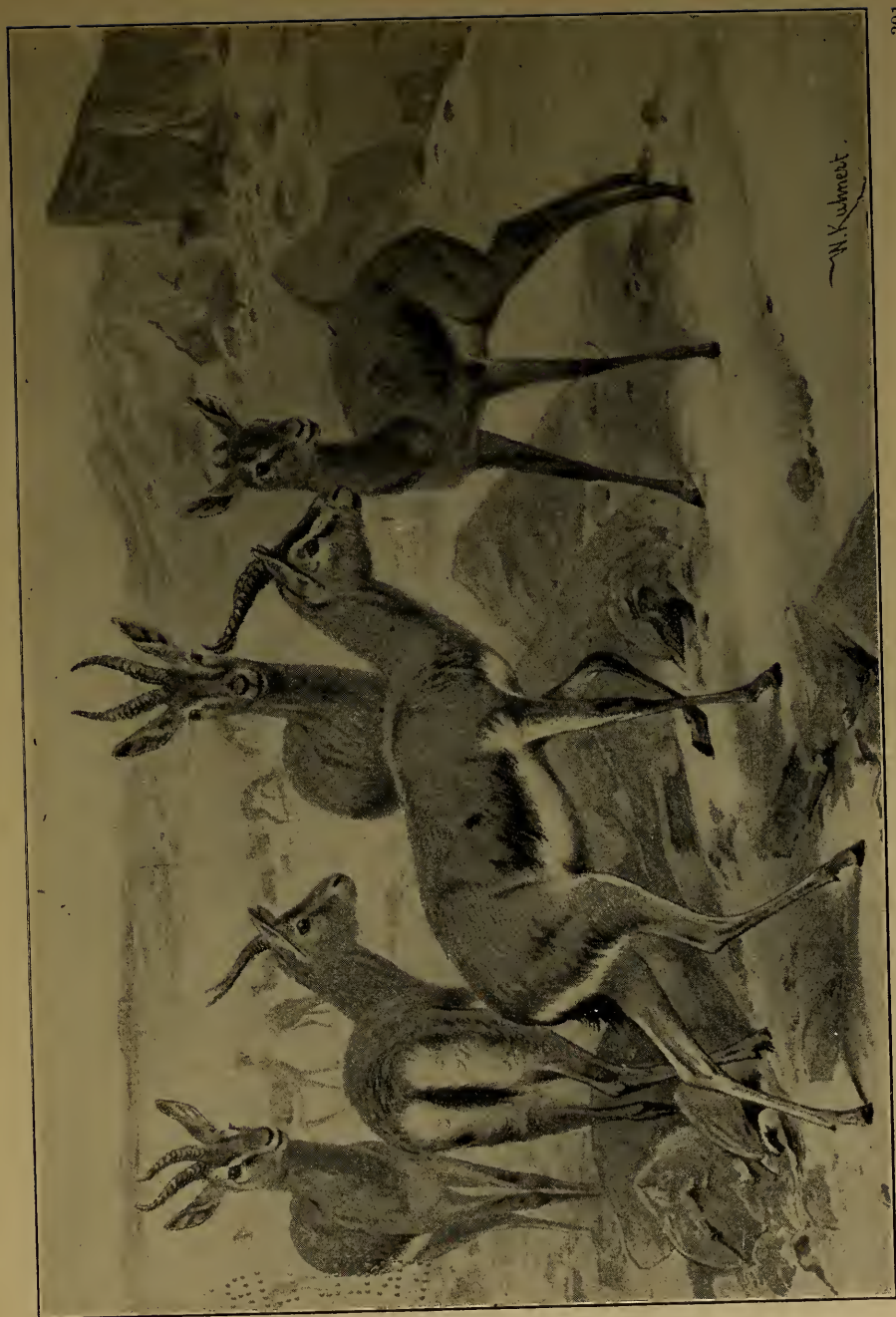
Mr. Roosevelt, resembles the Grant gazelle in form and color, but is much smaller. It lives in the open grass-grown plain, is slow to realize its danger and will allow a hunter to approach within three hundred feet. The male has long and strong horns; those of the female are poorly developed and ill-shaped. When running away from an enemy these animals carry their heads erect only at the start, but in full flight they lower them considerably. One may often see these pygmy gazelles, which feed exclusively on grass, pasturing among the tame cattle of the Masai tribe. The natives abstain from eating their flesh and seldom hunt them. An almost constant movement of the comparatively long tail to and fro characterizes the Thompson gazelle and enables one to recognize the animal at a great distance.

The gazelle is occasionally discerned in company with gnus and other animals. In British East Africa near the Nakuru and Elmenteita lakes, thousands of them are found. These pygmy gazelles help to bring life into the desert, salt and natron steppe of this vast country. May they long continue to do so, says a distinguished traveler and nature-friend.

One of the most graceful and beautiful species of this family of animals is the giraffe gazelle. Imagine a diminutive giraffe, exceedingly slender and graceful, of brownish color, provided with horns and capable of standing like a goat on its hind legs. Thus appears the giraffe gazelle, or greenuk. It is widely distributed and has been observed in the remotest regions of the steppe of East Africa. The male is provided with peculiarly-shaped horns; the female has none.

Near Nairobi and at the foot of Mount Kenia the American hunters often noticed in the bright light of the setting sun, an animal rising on its hind legs to browse on the leaves of the mimosas. At first sight they thought the animal to be a giraffe; for in the clear atmosphere of the steppe it is not easy to judge the distance and size of an object. They soon realized that they were mistaken and that they had before them the greenuk—the giraffe gazelle. They secured several specimens of this rare and little known animal.

The giraffe gazelle can live far from water and is very hard to hunt. It manages to exist in the desert thorn wilderness and is able to find enough food in the midst of a dry and very scanty vegetation. This gazelle avoids forests and parts of the steppe with luxuriant vegetation. It spends the day in the shade of acacia bushes, and seeks its food early in the morning or late in the evening.



A HERD OF GAZELLES.

When suspecting danger the animal stands for a moment erect and motionless, as if cast in bronze. Then it bends its long neck so that it forms almost a line with its body and moves noiselessly over the ground to the nearest cover. To the pursuing hunter the animal suddenly seems to have vanished into the ground, but from a higher point it can be seen gliding along like a shadow. No wonder that the giraffe gazelle has so long escaped the observation of many African travelers.

The American hunters found stalking the giraffe gazelle very difficult and highly fatiguing in the thorny hunting grounds, which are its favorite haunts. Progress is slow and the animal is apt to notice the hunter long before he has become aware of its presence. Then he must fire a chance shot or wait until the giraffe gazelle raises its head above the thorns. They used to stalk the giraffe gazelle in the heat of the day, when it took its siesta. If one does not mind the heat, one is often well repaid for the trouble. In the neighborhood of the extinct Kilimanjaro volcano a sportsman once killed, within a few hours, five bucks and sighted fifteen does, but spared them.

To the above we add the following interesting facts.

The gazelle is regarded as the embodiment of grace and beauty, and is celebrated in song and story. It is usually of a sandy color and has a white streak on the side of the face from the base of the horn nearly to the nose, thus cutting off a dark triangular patch in the middle of the forehead, while the streak itself is bordered by a dark line. The horns, which are generally present in both sexes, are recurved and completely ringed throughout the greater part of their length. Most of the gazelles do not exceed thirty inches in height, although the mohr reaches thirty-six inches. There are about twenty-one living species.

The gazelle so famous in Oriental poetry inhabits Arabia and Syria. Its eyes are very large, dark and lustrous, so that the Oriental poets love to compare the eyes of a woman to those of a gazelle, just as Homer constantly applied the epithet ox-eyed to the more majestic goddesses, such as Juno and Minerva. It is easily tamed when young, and is frequently seen domesticated in the court yards of houses in Syria. Its swiftness is so great that even a greyhound cannot overtake it, and the hunters are forced to make use of hawks, which are trained to strike at the head of the gazelle, and thus confuse it and retard its speed, so as to permit the dogs to come up. The color of this pretty little animal is a dark yellowish brown, fading into white on the under parts.

One of the most important members of the gazelle family is the South



GIRAFFE GAZELLE AND DWARF ANTELOPE FROM A RECENT PHOTOGRAPH.

African springbok. The springbok derives its name from its habit of suddenly leaping in the air; and is remarkable both for the vast numbers in which it formerly occurred, and for its periodical migrations. I was once a spectator of the remarkable scene produced by one of these migrations. For about two hours before dawn I had been lying awake in my wagon, listening to the grunting of the buck within two hundred yards of me; imagining that



THE GOITRED GAZELLE.

some large herd of springboks was feeding beside my camp, but, rising when it was light and looking about me, I beheld the ground to the northward of my camp actually covered with a dense living mass of sprinkboks, marching slowly and steadily along. They extended from an opening in a long range of hills on the west, through which they continued pouring like the flood of some great river, to a ridge about a mile to the north-east, over which they

disappeared—the breadth they covered might have been somewhere about half a mile. I stood upon the fore-chest of my wagon for nearly two hours, lost in astonishment at the novel and wonderful scene before me, and had some difficulty in convincing myself that it was a reality which I beheld, and not the wild and exaggerated picture of a hunter's dream.

The goa or Thibetan gazelle is distinguished by the white disc around the tail, the long winter-coat, short ears and tail, the greatly curved horns and the uniform color of the face. The height of the animal is twenty-four inches;



PHOTOGRAPH OF MALE GIRAFFE GAZELLE. AN EXTREMELY BEAUTIFUL AND RARE SPECIES, RECENTLY FOUND IN EAST AFRICA.

and the largest recorded horns measure fifteen and three-quarter inches in length; the number of rings varying from twenty to thirty. This gazelle inhabits the Thibetan plateau at elevations of from thirteen thousand to eighteen thousand feet, and goes in small parties of from two or three to a dozen. It is less shy than other species.

Another of the true gazelles is characterized by the white of the rump extending forward in an angle into the fawn-color of the haunches; both sexes having horns, which are frequently longer than in the other groups; the animals themselves being also relatively large.

Its swiftness is such that it can but seldom be taken with dogs; but it does not leap in the air like the dorcas. This gazelle keeps much to waste ground, especially where that is broken up by ravines, but it is seldom seen on alluvial plains, and it haunts cultivation less than the [Indian] antelope. I have frequently found it among scattered bushes or thin tree-jungle, and it may be met with on undulating ground even on the top of hills; it is commonly found amongst sand-hills, and is nowhere so abundant as in parts of the Indian desert. It lives on grass and the leaves of bushes, and, I believe, never drinks, for it is common in tracts where there is no water except from deep wells.

A peculiar gazelle, known as the gerenuk, or Waller's gazelle, inhabits Eastern Africa, and is remarkable for the great length of its neck, which has been likened to a miniature giraffe.

The gerenuk is found all over the Somali country in small families, never in large herds, and generally in scattered bush, ravines and rocky ground. I have never seen it in the cedar-forests, nor in the treeless plains. Gerenuk are not necessarily found near water; in fact, generally in stony ground with a sprinkling of thorn-jungle. Its gait is peculiar. When first seen, a buck gerenuk will generally be standing motionless, head well up, looking at the intruder, and trusting to its invisibility. Then the head dives under the bushes, and the animal goes off at a long, crouching trot, stopping now and again behind some bush to gaze. The trot is awkward-looking, and very like that of a camel; the gerenuk seldom gallops, and its pace is never very fast. In the whole shape of the head and neck, and in the slender lower jaw, there is a marked resemblance between the gerenuk and the dibatag. It subsists more by browsing than by grazing, and it may not unfrequently be observed standing up on its hind-legs, with outstretched neck, and its fore-feet resting against the trunk of a tree, in order to pluck the foliage.

The goitred gazelle is rather a heavy animal, found in Eastern Siberia, Chinese Mongolia and Western Thibet. It also inhabits Persia, and a favorite sport of Persian noblemen is to hunt it with the chita, or trained hunting leopard.

A beautiful species of gazelle is the Dorcas, found in Egypt and Barbary, where it lives in large troops upon the borders of the cultivated country, and also in the deserts. When pursued it flies to some distance, then stops to gaze a moment at the hunters, and again renews its flight. The flock, when attacked collectively, disperse in all directions, but soon unite, and when brought to bay defend themselves with courage and obstinacy, uniting in a close circle, with the females and fawns in the center, and presenting their

horns at all points to their enemies; yet, notwithstanding their courage, they are the common prey of the lion and panther, and are hunted with great perseverance by the Arabs and Bedouins of the desert. When taken young they are easily domesticated, and soon become familiar. This animal is frequently cut upon the monuments of Egypt and Nubia.

Referring again to the beautiful Arabian gazelle, or as it is properly called,



RED-FRONTED GAZELLE.

ariel gazelle, it may be said that it is still hunted by the Arabs for its flesh, which is excellent, as it was by the ancient Egyptians.

On the eastern frontier of Syria are several places allotted to the hunting of this animal, or rather for its entrapment or destruction. An open space on the plain, about one mile and a half square, is enclosed on three sides by a wall of loose stones too high for the gazelle to leap over. Gaps are left in different parts of the wall, and at each gap a deep ditch is sunk on the outside.

The inclosure is situated near some rivulet or spring to which the gazelles resort in summer. When the sport is to begin, many peasants assemble and watch till they see a herd of gazelles advancing from a distance toward the inclosure, into which they drive them. The gazelles, frightened by the shouts of the people and the discharge of the fire-arms, endeavor to leap over the wall, but can only effect this at the gaps, where they fall into the ditch outside, and are easily taken, sometimes by hundreds. The chief of the herd always leaps first, and the others follow him one by one. The gazelles thus captured are immediately killed, and their flesh sold to the Arabs and neighboring Fellahs. Of the skin a kind of parchment is made, and used to cover the small drum with which the Syrians accompany some musical instruments or the voice.

Referring again to the trek of the Springboks: The migration is called a trek bokken. So great is the number of animals in these migrations that those which happen to get into the rear of the troop are lean and half-starved before the migration is concluded, from the advanced ranks cropping the scanty pastures almost bare, and thus leaving those behind nearly destitute of food; but when the journey is concluded, and the troop begins to retrace its steps northward, those which formed the van during the advance are necessarily in the rear returning, soon lose their plump condition, and are in their turn subjected to want and starvation. During these migrations the herds are closely followed by lions, panthers, hyenas and wild dogs, which hang upon their flanks and destroy great numbers of them. There is perhaps no spectacle in nature more inspiring than a flock of these beautiful gazelles enlivening the dreary brown karroos of South Africa with their graceful motions; now leaping perpendicularly upward to the height of six or seven feet, displaying at the same time the snowy-white marks on their croups, and anon flying over the desert with the speed of a whirlwind.

THE CAFFRE-CAT

The Ancestor of the Domestic Cat—A Native of Africa and Asia—Worshipped by the Egyptians.

Among the other smaller beasts of prey which the American hunting expedition came across in East Africa were also a number of wild-cats. This animal frequents long grass, reeds and bushes, especially in the neighborhood of small streams and rivers. It is strictly nocturnal in its habits and very seldom seen in daytime, and then only by chance.

While hunting elephants on the western side of the Kilimanjaro I saw, says an African traveler, again and again, a shy black cat. From my stand I could often see it far below me, jumping gracefully over the dew-laden grasses and the branches which blocked its way; but before I could take aim it always disappeared into the thicket. For many nights it avoided the traps I set to catch it. One morning, however, my taxidermist surprised me with the welcome news, "We have got her." Saying this he held out to me a fine serval, or black cat. She appeared to be uniformly black, but, holding her against the light, I could see the darker spots shining through. On the plains of the steppe I met, though very rarely, the grey wild-cats.

The caffre cat is about the size of a large domestic cat, and is generally of a yellowish color, darker on the back, and paler on the under-parts. The body is marked with faint pale stripes, which assume, however, on the limbs the form of distinct dark horizontal bands; and the tail, which is relatively long, is also more or less distinctly ringed towards its tip, where it is completely black. The sides of the face are marked by two horizontal streaks.

The caffre cat is found throughout Africa, from the Cape of Algiers and Egypt, and also extending into Southwestern Asia in Syria and Arabia. In past times it also ranged into Southeastern Europe. At the period when the caffre cat lived in Gibraltar, Spain was doubtless connected by land with Africa. These cats were held sacred by the ancient Egyptians, and enormous numbers of their bodies were embalmed and preserved in tombs and pits.

Darwin considered that the origin of the domestic cat could not be determined with certainty; and concluded by remarking that whether domestic cats have descended from several distinct species, or have only been modified by occasional crosses, their fertility, so far as is known, is unimpaired.

That the ancient Egyptians had succeeded in taming thoroughly the cats of which the mummified bodies are found in large numbers is perfectly well ascertained. This is indeed demonstrated by a painting in the British Museum, representing a fowling scene. It appears to have been the custom for the fowler to enter upon such expeditions accompanied by some of the female members of his family. Embarking on board a boat, with a few decoy-birds and a trained cat, they proceeded to such parts of the river as were fringed with dense masses of the tall papyrus-reed. Waterfowl of various species



THE CAFFRE CAT, WORSHIPED BY EGYPTIANS.

swarmed in these rushy covers; and, by the number of nests with eggs and young usually represented, we are doubtless to infer that the possession of this sort of stock was no less desired than that of the birds themselves. The cat, strange as it appears, was certainly taught to seize upon the birds. It is probable also that the repugnance of this animal to wet her feet having been overcome by training, she was accustomed to fetch such birds as fell into the water. It is interesting to find the cat domesticated at so early a period.

CLOSING INCIDENTS OF THE ROOSEVELT AFRICAN HUNT.

Search for the White Rhinoceros and Other Rare Big and Small Game—Interesting Adventures in Wildest and Darkest Africa, Uganda and Belgian Congo—Down the Nile.

When Colonel Roosevelt and the Smithsonian scientific expedition of naturalists and explorers arrived at Kampala, the native capital of the Uganda Protectorate, four days before Christmas, they had completed the first stage of their great enterprise and entered upon the second. They now left behind them such indications of civilization and progress as railroads and telegraphs and entered wildest Africa, where they had to rely on their own feet for locomotion and could not even expect to hear from the outside world by mail.

The end of Colonel Roosevelt's last trip in the British East African Protectorate had been spectacular. This safari trip, which was the fourth one made out of Nairobi, gave our ex-President and his party an opportunity to witness an exciting hunt at A. E. Hoy's farm at Singoi, in the Guaso Nguisho country, and the spearing of a lion by Nandi warriors.

As soon as Colonel Roosevelt had arrived on the back of his favorite horse, Tranquility, followed by a long stream of porters, which came winding across the veldt toward the station at Nairobi, looking like a string of ants, the stars and stripes being held aloft by a giant native, and the sound of horns making strange discords with the chanting of the weird and elusive safari song, the game of cornering an angry lion by native spearmen began.

The band of seventy almost naked men, with their long sharp spears, attended by the chosen spectators, the latter being mounted, proceeded down a long valley where the grass was thick and thorn trees lined the edges.

Soon a lion was observed not more than 400 yards in front. Immediately the warriors gave chase, and in less than two miles they had rounded up the king of the wilderness. The horsemen then approached, and it was seen that the lion at bay was a full-grown, black-maned one.

The spearmen began their task of surrounding their quarry. Every man

went to his allotted position, and the circle slowly closed in on the snarling beast, which swished its tail and kept up a continual roaring.

The warriors drew to within some twenty yards of the lion, and the colonel and the horsemen closed up to see the kill, yet remained at a sufficient distance so as not to interfere with the spearmen's movements. Three times the lion made a savage charge at the now stationary warriors, but stopped short each time, with mane bristling, roaring in impotent rage at its tormentors.

Again the attacking party advanced to within ten yards of their victim. One last desperate effort and the lion drove directly at the line, only to fall with ten spears quivering in its body. But in that brief moment it managed to drag down one of the natives, its claws sinking into the man's flesh.

The death of the king of beasts seemed to awaken all the fire in the warriors' blood. They began a dance of triumph around the body, waving their blood-stained spears, some of which were bent by the force of the shock; holding their shields above their heads and shouting forth blood-curdling yells in the excess of their savage joy over the victory.

In the meantime the injured man was given medical attention. He bore the pain of his wounds without a sign of concern. He who first had jabbed his spear through the lion joined in the dance at the start, but soon retired to a distance, where he seated himself, apparently indifferent to the antics of his fellows. He now was a leader of men and must therefore not show sign that he had done anything out of the ordinary.

This exciting game formed the closing scene of the colonel's safari in British East Africa. He immediately took the train for Port Florence and proceeded to Entebbe by steamer on Victoria Nyanza as related in a previous chapter.

The party stayed only over night in Entebbe, where they were entertained by the British governor of the Protectorate. The next day Roosevelt and Kermit were taken to Kampala in motor cars, while the other members of the expedition arrived by steamer.

Kampala is located on the western shore of Victoria Nyanza on a dominating elevation. The colonel was met by a magnificent sight. The whole brow and sides of the hill were covered with gigantic grass huts neatly thatched and fenced all around with the tall yellow reeds of the Uganda tiger-grass. In the center of this vast conglomeration of huts the regal palace, a building of extraordinary dimensions and neatness, raised its majestic

dome high above the other dwellings, while within the enclosure the lines of huts were joined together, or partitioned off into courts with walls of grass.

Here our ex-President and party were cordially received and heartily welcomed by the thirteen-year-old King of Uganda, Daudi Chwa, or Daniel Chwa. At each gate they passed officers on duty who opened and shut it for them, jingling the big bells which were hung upon them. The first court passed, they were greeted by courtiers dressed in gorgeous uniforms. The king, through his prime minister, Sir Apolo Vagwar, expressed his pleasure of having the honor of receiving the Americans and wished the expedition success during their stay in Uganda.

Like old Rome, Kampala is a city of seven hills. Each division or suburb is on a separate hill. When street cars in the future invade this secluded abode of seventy thousand picturesque Bagondas, it will have to be elevated roads, for the hillsides are so steep that they cannot be ascended on horseback, and between them are marshy ravines with little turbulent streams rushing down to the big lake.

The ex-President found this wonderful city in the wilderness traversed by innumerable broad roads or streets, on each side of which were reed fences, and back of these rich and luxuriant banana groves, which almost hid the native huts from the stranger's view. The whole city looked like an immense garden, and nothing but the government buildings, the king's palace and the mansions of his ministers and officers of state, the spires of the Roman Catholic Cathedral and other Christian churches could be seen towering above the broad sea of leaves.

Colonel Roosevelt found the native savage inhabitants of the capital of the Uganda Protectorate highly intelligent, quick and keen of perception, clever and polite and full of admiration for the white man, whose civilization they looked upon as something extraordinary. They were anxious to entertain their American guest to the best of their ability.

Uganda was first discovered by the African explorer, Captain Speke, in 1869, and visited by Stanley in 1875. His glowing description of this remarkable black kingdom and its powerful and intelligent king, the famous Mutesa, aroused a great interest in England and the first Protestant missionaries were sent out there in 1877. Their work has been so successful that now 300,000 of the natives have been converted to Christianity.

Colonel Roosevelt visited the late King Mutesa's grave near Kampala. It was an immense mound or earthen pyramid watched by two old women,

who jealously guarded the sacred abode of the once so mighty ruler from the curiosity of visiting strangers.

When Roosevelt left America to spend the winter in the African tropics, grave apprehensions were entertained by many of his friends that he never might return home alive. Our brave hero laughed at their anxious fears. But when he left civilization behind and entered the unbroken wildernesses of Uganda he found himself in the midst of new and extraordinary difficulties that well might have deterred a less courageous and strenuous traveler from progressing farther into the very heart of wildest Africa.

The expedition that left Kampala last Christmas consisted of Colonel Roosevelt, Kermit, Mearns, Heller, Loring and Cunningham. They had thirty porters and boys to carry their 200 loads of supplies. Their destination was Rhino Camp in Belgian Congo, which is a permanent basis for hunters, and where the ex-President expected to find the white rhinoceros, the killing of which was one of the chief objects of his African hunting trip. This beast is very rare and many African sportsmen have failed in securing specimens of the same. If the game sought for was not found within a week in the territory formerly remarkable for its presence, the quest was to be abandoned.

Their road went through one of the most beautiful countries on earth. Uganda has been called the garden spot of the tropics. The tropical vegetation that meets the eye on every side excels in luxuriance and brilliancy every thing seen elsewhere on earth. The charming attractiveness of the scenery, the glowing floral beauty of the landscape, the millions of crimson purple, yellow and violet blossoms that cover the fields, the beautiful many colored plants and trees that grow in profusion around the green lawns—everything seems to breathe beauty and exhale paradisiacal flavors.

At short intervals they came upon little thriving villages imbedded in luxuriant groves of bananas, orange and lemon trees, the banana being the most important productive food plant of this country, while coffee, tea, cocoa and vanilla plantations formed pleasant interruptions in the eternal monotony of the endless cotton fields or cinnamon forests and double avenues of young rubber trees extended on both sides along the roads. Add to this royal luxuriance of the tropical vegetation the fact that Uganda, being on an altitude of 4,000 feet above the level of the sea, enjoys a lovely, almost temperate climate and that soft, cool breezes day and night sweep over the fields,

and you will have come as near the ideal of an earthly paradise as seems possible on this side the grave.

But a terrible and baneful fate hangs like a Damocles sword over the sunny field of this benign region. We have already mentioned the frightful epidemic plague which during the last seven years has been Uganda's curse and swept away over 300,000 of its natives and killed off almost all cattle and domestic animals they possessed. Mr. Roosevelt everywhere came upon traces of the fearful ravages of this horrible destroyer. The beautiful villages were abandoned, the natives having either succumbed to the deadly disease or fled to the woods. The regions along the rivers and the lakes, where the fatal tsetse fly lives, were devastated, and it was impossible to buy provisions. Millions of poisonous insects swarmed around them and covered their faces and hands, so that they often had to march by torches at night to protect themselves against these unwelcome intruders. One of the most troublesome of these pests was a species of tick which aimed right at the eyes and whose bite often caused a severe eye disease sometimes resulting in blindness. Another not less disagreeable disturber of their peace was the termite or red ant, millions of which crawled along their path and when stepped upon or otherwise irritated would attack them by the thousands and bury their stings in their tender flesh.

Now and then they passed some of the isolation camps for the sufferers of the terrible sleeping sickness which the British government had established. It was pitiable to see the poor children, men and women who were found there in all stages of the disease, some immediately after the inoculation of the poisonous germ and others battling for life in the last throes of death.

A redeeming feature of this sombre picture of death and desolation was the kind and courteous behaviour of the Bagandas. The natives the American expedition met were generous and extremely polite. Whenever they went to visit them in their huts they always gave them a present, which varied according to the wealth of the tribe. Sometimes it was a cow, but often it would be only a big woven basket with a few eggs in the bottom, but the owner invariably presented it with great politeness and ceremony, and asked them to take it with them.

The Baganda boys would sometimes accompany them on the march and it was considered polite to precede them on the journey for several hours—

yea, they were so courteous as to part the grass as they walked and cautioned them against stepping into holes.

But, notwithstanding the beauty and richness of the vegetation the Colonel and his companions found the road from Kampala to Lake Albert tiresome and monotonous. Not that the voyage offered only one kind of scenery. On the contrary, there were the most remarkable varieties and contrasts, but a particular class of landscape was distributed, so to speak in large chunks. What they saw one day they saw for the whole next week. The enormous masses of commonplace vegetation seemed to have grown over and smothered the human race. In this dense poll of vegetation, exciting no emotions, offering no prospects of anything new, man is of but little more significance than the gorilla and the chimpanzee—his houses or huts produced no more scenic effects than large bird's nests. He cannot lift himself above the scrub and tall grass. If he cuts it down, it simply grows up and surrounds him again holding his spirit in bondage and depriving him of that energy which has lifted other races up.

Even in animal life, the American expedition found these forests and glades strangely deficient. Beasts there were; but in contrast to the eastern plains where they were too conspicuous, they were rarely to be seen. In the whole journey from Kampala to Lake Albert the only wild mammals which they saw were a party of baboons in Unyoro. They were crossing the road which was cut through the usual tall grass, a little way in front of them, and stopped for a moment, and turned with interest to see what the strange creatures were. Almost the only other four-limbed creature they saw was a chameleon.

One form of animal life, however, was very abundant in these regions—butterflies. They were found in a somewhat unusual place, namely, the puddles on the road. Indescribable quantities of these insects had settled on the road in many places, forming bright spots of white and yellow, and were so engrossed in their uncleanly banquet, debauching themselves with low carouses in dirty water, particularly if there was a little filth or carrion in it, that they let the caravan drive over them without stirring.

From Uganda they passed into the kingdom of Unyoro. While the road somewhat deteriorated as they passed farther west, the scenery of the two countries was very much the same, being composed of hills with low-lying, marshy country between them. The road scaled the height and wallowed in the marshes with the most inflexible determination, and no reason or obsta-

cle could induce it to deviate from its straight direction. The ups and downs were terribly steep, and in some places white ants had erected solid fortresses in the center of the highway.

After passing Haima, the pretty capitol of Unyoro, the ups and downs of the road increased in severity as they approached Lake Albert, and terminated in a final precipitous descent.

At Butiaba, where the American expedition approached the lake, arriving there January 7, it is surrounded by a low level plain, two or three miles wide, from which rise cliffs about 1,500 feet high. The soil was impregnated with salt, and supported but little vegetation.

Butiaba is by no means a town, for it consists of only three or four sheds and a pier, and has no inhabitants of any kind. The hunting party found a steam launch, which had in tow two steel boats for their equipment, waiting for them at the pier, to take them across the northern end of Lake Albert and up the Bar-el-Jebel river. They left Butiaba at 10 o'clock in the morning and arrived at Koba at 11:50 P. M. Forty minutes later the journey was continued to Wadelai and thence to Rhino camp, which was reached at daybreak. It is located on the Congo side of the Bar-el-Jebel river. The distance from Butiaba to Wadelai is 72 miles and was covered in a remarkably short time.

All the way they passed through schools of hippopotami who rose to the surface round the launch, which they treated with supreme indifference. Everywhere there was a display of water-birds as remarkable in its way as the antelope and zebras on the Athi or Kapiti plains. Some ran about on the flat leaves of the water-lily, while some chattered in the trees along the river, where they had constructed whole cities of bottle-shaped nests, and many stood on one leg contemplating the scene with that grave calmness, which is so characteristic of the family of cranes and storks. The Bar-el Jebel or Upper Nile, along which our hunters were now passing, has no banks, and it is very hard to say where the water ends and the land begins, for a carpet of vegetation and flowers spreads from the land over the edge of the river, while the river overflows the land and creates a shallow marsh a few inches deep. All this renders landing very uncomfortable, but the effect on the eye is pleasant. The water is softly opalescent, particularly in evening lights, and the double line of mountains affords a good frame for the landscape, while the velvety carpet of vegetation, which borders the sides and backwaters, is redeemed from monotony by beautiful white and blue lilies, and occasional

flowers of more gorgeous hues. Towards evening the mosquitos came forth in great clouds, and were so numerous and venomous that in many places the whole native population was seen marching down to the lagoons, where they remained for some time with only their heads above water to protect themselves against their numerous tormentors.

At Rhino camp in Belgian Congo, Colonel Roosevelt succeeded in finding and killing some fine specimens of the now almost extinct white rhinoceros. He shot three good bulls and two cows beside a bull buffalo and other smaller game. The naturalists collected many species of birds and mammals and Kermit took excellent photographs of a living white rhinoceros.

This enormous beast which was once so numerous in South Africa and south of the Zambesi river is now almost extinct. It is the largest of the genus. The species obtained by our mighty hunter measured from twelve to fourteen feet in length and from six to six and a half feet in height at the shoulders. Their color was slate gray with brownish tints on the shoulder and haunches. The head is long and slender and square at the muzzle, as seen on our excellent picture of this rare animal. The snout has two horns, the front one long and sharp, the second short and obtuse. The length of the horns is from three feet to four feet, six inches, and it is the ambition of every native chief to have a staff made from them. The horns of the females are longer and more slender than those of the males. The ears are sharp and pointed, the lower part closed like a tube, the top adorned with a small tuft of hair. The colonel found the flesh of the white rhinoceros more fat and juicy than that of the black, and tasting some like beef, but with a peculiar flavor. The flesh of the calf is said to be especially good, much like tender veal.

Our ex-President, now having satisfied his ambition of killing the white rhinoceros decided to give specimens of the complete family to the Smithsonian institution. He also donated two skins to the American museum of Natural History at New York and presented a head to William T. Hornaday's collection. He declared that he would not retain any of the white rhino trophies for himself.

While staying at Rhino camp the American hunting party had an interesting experience that had not been counted upon. On their second day at the camp a grass fire accidentally started and threatened to burn up the whole outfit, which was saved only by the energetic work of all hands in clearing



THE GREAT TWO-HORNED WHITE RHINOCEROS IN CENTRAL AFRICA
SEVERAL OF THIS RARE SPECIES WERE OBTAINED BY MR. ROOSEVELT

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the grass immediately surrounding the camp. All members of the party were in excellent health and delighted with their visit in the Congo.

From Rhino camp the party returned to Wadelai from whence a three day's journey by boat on the Upper Nile brought them to Nimule, where they arrived February 9 on scheduled time. There the Colonel received his mail, of which quite a pile had accumulated during his three weeks' absence in the wilderness. He was the recipient of a great number of requests to speak in European cities but declined to arrange for addresses other than those already promised.

At Nimule begin the rapids of the Nile, which impede navigation until Gondokoro, so that this part of the journey has to be done on foot. These rapids are a most impressive spectacle. For a short space the whole volume of the Nile is forced through a channel cut in the rock, only fifteen to twenty yards wide, and of unknown depth, and then leaps out into a boiling caldron of foam, surrounded by black polished cliffs and dense, dark vegetation. Other, but less remarkable rapids succeed, and the river is not free for navigation until a few miles of Gondokoro, where the swampy vegetation begins.

The road from Nimule to Gondokoro offered the most trying experiences of their African journey to the ex-President and the American expedition. For ten days they were isolated in a wilderness so forbidding to the white man that it has not been invaded by the telegraph companies, the only communication among its scattered villages being by means of native runners. The dangers of the marsh can only be understood by those familiar with the route. Sometimes they had to scramble over rocks and sometimes waded through marshes or over-flows; often they had to march through grass six or seven feet high, drenched with a cold clammy moisture, which settles on the long stalks and defies the sun for several hours. They also had to cross three deep and swift rivers, some wading, others being carried by native porters, and others ferried over on rafts, bridges being practically unknown in this part of Africa. Sometimes they were relieved by large, spreading trees, which offered a grateful shade, and when, as sometimes happened, these were scattered over an open, grassy meadow, the view was restful and attractive.

The Colonel and Kermit left the expedition's trail for a day's hunting of elephant and giant elands at Rajof, on the Congo side of the Bar-el-Jebel river. The hunters invaded the territory on the special and eagerly accepted invitation of the Belgian authorities. Save for this departure from the

program of travel the expedition would have arrived at Gondokoro a day earlier.

Colonel Roosevelt and Kermit were accompanied in the Congo by E. B. Haddon, the British district commissioner stationed at Uganda. Mr. Haddon met the expedition at Kiriba camp, sixteen miles to the south of Gondokoro.

February 17, Colonel Roosevelt, Kermit and the other members of the Smithsonian African scientific expedition arrived at Gondokoro in Sudan. All were well and enthusiastic over their experience and the scientific results of their explorations. The appearance of the party was a surprise however, for all, including Kermit, wore beards, which had been allowed to grow while in the jungles of Uganda.

The entrance of the Americans in the Sudanese city was picturesque and nothing that British and native hospitality could suggest was lacking in the welcome. The arrival of the expedition in the outskirts of the town was heralded with bugle blasts by Chief Keriba's band, which was in the van. Keriba accompanied his musicians. As soon as the nine runners in the van of the expedition had arrived the native party had marched out to meet the hunters sixteen miles to the south and on the way to the town did them all the honor that could be got out of their instruments of brass and Indian drums.

Reaching the town the band struck up "America," which, being also the British national air, suited the occasion. Belgian marches were interspersed. Following the musicians a native porter carried a large American flag; then came the caravan proper—Colonel Roosevelt, Kermit, the other American hunters and scientists and the body of native porters, who have had an important part in the work of exploration.

Waiting on the Bar-el-Jebel was the launch of Gen. Sir Reginald Wingate, sirdar of the Egyptian army, and from the vessel were flying the stars and stripes. Mr. Roosevelt boarded the launch at once and after a brief rest began the reading of his mail. Many communications awaited him.

A commodious brick house was placed at his disposal. The day after their arrival at Gondokoro, Colonel Roosevelt, Kermit and Edmund Heller left on a steamer for a final week of shooting along the river bank. Meanwhile R. J. Cunninghame, the field naturalist, Maj. Edgar A. Mearns and J. Alden Loring remained in Gondokoro to pack the specimens, dismiss the porters and others who had accompanied the Americans as helpers and wind up the affairs of the expedition.

Kermit Roosevelt and Mr. Loring won fame and popularity among the

inhabitants of Gondokoro by their brave actions and presence of mind in an attempt of preventing a threatening accident. A native had fallen into the river near the steamer occupied by Col. Roosevelt and was drowned. Kermit and Mr. Loring heard of the accident and in an effort to recover the body both dived into the water heedless of the dangers from the numerous crocodiles, whose scaly bodies were glistening in the tropical sunshine along the river banks, and the swift current that threatened to sweep away everything that came within its reach. They escaped harm, however, and emerged from the watery deep under the applause of hundreds of enthusiastic spectators.

The governor of Mongolia, Belgian commandant at Lado, and other officials called on Colonel Roosevelt in the forenoon.

While the Colonel and Kermit were absent on the shooting expedition along the banks of Bar-el-Jebel the existence of the Roosevelt party terminated at noon February 26, when, at the sound of the bugle the tents were struck. Then the 450 porters, herdsmen and gun bearers, loaded down with bags of flour and their own personal belongings, started down the trail for Kampala.

They were more than happy and all sang the praises of Colonel Roosevelt, not only for his prowess as a hunter, but also for his generosity to them. They were filled with delight at the rewards given them which enabled them to return to their homes at their leisure with plenty of collateral with which to purchase some more wives. When a member of the American expedition inquired of them if they did not think it was wrong to have so many wives they laughed and one of them said, "Why no; is it wrong to be rich?" To be wealthy enough to support more than one wife means that he was particularly blessed. To be able to afford six or eight wives was a great blessing.

The picture was not complete owing to the absence of Colonel Roosevelt and Kermit. The other members of the expedition were on hand, however, and waved farewells to the natives as they left.

For the past two days the camp had been a busy place. The great number of traders who flocked thither from the Congo, expecting to get hold of a lot of valuable goods for absurdly small sums, were disappointed. One trader bitterly denounced Colonel Roosevelt as "Too much of a business man."

At the roll call the night before the safari was dismissed which has been a part of the system of military regulation insisted upon by Colonel Roose-

velt, twenty-five of the natives marched up and solemnly answered to their names.

The sick report returned by the Uganda herdmen showed remarkably little illness and only a few deaths. This was largely owing to the unremitting care and vigilance of Mr. Cunninghame.

As the last man with a sack of flour was disappearing over the range and the breeze brought back the faint echo of the African marching song, and the little group of white men gave a cheer, Dr. Mearns swallowing a lump in his throat, Colonel Roosevelt and Kermit returned unexpectedly from their hunting expedition on the Belgian gunboat, *Boch*, all looking well. They were sorry not to have been present at the farewell.

Both were enthusiastic and Colonel Roosevelt said that he was greatly pleased at the success of his hunting expedition to Rajof, as they secured the only complete specimens of the giant eland ever taken out of the Congo by white men. The animals were magnificent—as large as Rhinos, with huge, graceful spreading horns, and are truly the finest trophies to be secured in Africa. The colonel killed one bull giant eland while Kermit killed a bull and a cow. They had spent from twelve to fourteen hours daily in the chase.

Kermit superintended the work of preserving the skins of the elands, which will be one of the most valuable and beautiful contributions to the museum of the Smithsonian Institution.

The Stars and Stripes which was carried by the expedition was the first seen in the Congo since the days of Stanley. Many of the natives, which the Colonel met, recalled him as king, and asked whether the members of the party were relatives of the great explorer.

The Colonel said that he would hunt no further unless Lake Wo, on the lower reaches of the Nile, offered an easy opportunity to get some specimens of rare animals which they had failed to get so far. The great Smithsonian scientific expedition that was practically ended, and the ex-President and Kermit were ready to start on their voyage down the Nile.

The results from the standpoint of the hunter and the scientist have exceeded all expectations. Colonel Roosevelt and his son Kermit have killed 500 specimens of large mammals. The bag includes the following: Seventeen lions, eleven elephants, ten buffaloes, ten black rhinoceroses, nine white rhinoceroses, nine hippopotami, nine giraffes, three leopards, seven Cheetahs, three giant elands, three sables, one sita-tungo, two bongos. All these

were killed in the interest of science and the specimens were distributed accordingly, the majority going to the Smithsonian Institution. Mr. Roosevelt retained not more than six trophies for himself.

The naturalists who followed the expedition obtained a remarkable selection, including over 5,000 birds and mammals. The results in this line were very gratifying, and science was enriched with several new species and a large number of the smaller mammals of Africa. The game taken and the collections made constitute a world's record for such a period of hunting and scientific research in Africa, and the American museums have received the greatest collection of African fauna in existence. Too much praise cannot be accorded to R. J. Cunninghame, the Englishman whose management of the expedition was declared as nearly perfect as could be conceived.

Colonel Roosevelt devoted his time during his voyage down the Nile to writing, including the preparation of addresses he later on delivered in Europe.

The neighborhood of the Nile, north of Gondokora, and especially between Bor and Lake Wo, through which the Colonel passed on his way to Khartum—a voyage which it took two weeks to accomplish—is one of the strangest and most desolate countries in the world. The Bar-El-Jebel here ceases to have banks at all, and spreads itself over large marshes, whose extent is unknown, but amounts to many miles on each side. As far as can be seen from the river, the country consists of a wooded plain, from which occasional hills arise. The course of the river is represented by a narrow and extremely tortuous channel, which sometimes widens out into lagoons, but is generally confined between two walls of dark-green papyrus. Like the locust or the potato-bug in the animal kingdom, the papyrus is an appalling example of the power of mere numbers. Weak though the reed is in itself, the strength of the host is irresistible; it invades, conquers, monopolizes, and, unlike the locust, it does not go away. You may cut down a few million stalks—millions and millions more remain, like the spears of a countless army, and as soon as you have cut down, re-growth commences. It is for the water what weed is for the land. Though each separate plummy shaft is a beautiful object, the mass of vegetation, when seen extending for hundreds of miles, has no grace of form or color, but is merely a dull stretch of green, unresponsive to effects of light and shade. It seems uncongenial to animal life, at least to the more cheerful forms. Crocodiles and fishes abound, likewise

mosquitoes in clouds; but birds are scarce, and even the hippopotamus, though not unknown, appears not to much like these dreary surroundings.

The last day of February, Theodore Roosevelt and the others of his immediate party sailed on the steamer *Dal* for Khartum. For about four hundred miles the steamer wandered in the above described maze of papyrus, sometimes actually going south, in order to follow the bends and twists of the stream, but never meeting any salient feature to break the monotony. They were pushing through the region of the famous "sudd", the Arabic name (barrier) given to the masses of vegetable growth which obstruct the river. This "sudd" is caused by the papyrus and other seeds, the roots of which plants grow together, and unite with the soil to form a compact mass. When, as is frequently the case, violent storms sweep over the swamps, the vegetation shows a mixture of strength and weakness. Large masses are torn off, but they carry their roots with them, and the roots carry earth and mud. Sooner or later these islets collide, and become piled on the top of one another, leaving the water to force its way as best it can below them. The river thus becomes covered with a layer of earth and vegetable matter, ten or even fifteen feet thick. Sometimes this monstrous growth entirely obstructs navigation between Gondokoro and Khartum, and communication can be restored only by cutting through it.

The part of the Nile on which the colonel was now voyaging is known as Bar-El-Jebel, or the mountain river, a name which suits well enough the beautiful reaches south of Nimule, but it is not appropriate to the swamp just described. At the end of that swamp is a lake called Wo, so overgrown with weeds that it is hard to say how large it may be. Here the Bar-El-Jebel meets the Bar-El-Gazal coming from the west, and the united stream, known as Bar-El-Abyad or White Nile, turns sharply to the East, until, after receiving the Sobot, it resumes its northerly direction.

The party arrived at Mongalla, March 2, and immediately after landing the Colonel performed the ceremony of planting a tree to commemorate his visit.

The previous two days Colonel Roosevelt encountered a fore-taste of the strenuous hospitality which characterized his progress through the Soudan and Europe.

Leaving Gondokoro in the morning, he arrived at noon at Lady, an attractive station on the Eucalave section of the Congo Free State, which shortly reverts to England.

At the landing stage the strapping Congolese soldiers, under Commandant Rekke, formed a guard of honor and escorted Colonel Roosevelt from the steamer, while hundreds of the inhabitants of the nearby villages following in procession, anxious to see the Khaki-shirted "King of Americani."

Colonel Roosevelt was entertained at luncheon by the commandant, the company numbering ten in all.

The Colonel was in his happiest mood, speaking French exclusively and keeping the company laughing with his humorous tales of hunting in America and Africa.

He had only a few hours respite before reaching Mongalla, where the reception was much more elaborate, as Colonel Owen, Governor of the Province, had been for years an admirer of Colonel Roosevelt's words and deeds.

A huge American flag flew from a special flagstaff. It fluttered between the red-crossed emblem of the Soudan and the Union Jack of Great Britain.

After dinner at the Governor's residence, the guest of honor witnessed a native dance arranged for his entertainment. A thousand or more native warriors in wonderful ostrich head-dresses and with their bodies decorated here and uncovered there, after the African native mode,

The natives exhausted their repertoire of dances for the visitor and it was the finest display Colonel Roosevelt had seen in Africa. The party left the same day for Lake Wo.

Colonel Roosevelt's proverbial luck in safely escaping the dangers of the African climate was pathetically illustrated during his stay in Mongalla in the death of Dr. Prosch, the French missionary who was for two years stationed in Rhodesia, and who was trekking home to retire and end his days in peace. Dr. Prosch and others were the guests of Colonel Roosevelt at luncheon. The doctor seemed in excellent spirits and had a lengthy talk with the ex-President about missionary work, proving himself a man of liberal ideas. Dr. Prosch and Colonel Roosevelt expected to meet again in Paris.

Later Dr. Prosch collapsed and died within a few minutes. At sunset he was buried on the very spot where he died, bugles sounding taps over the newly-made grave.

Within a stone's throw of Colonel Roosevelt's headquarters lay English and Italian sportsmen seriously ill and the district commissioner was down with fever. All were inured to the rigors of the African climate, where they had been for years, yet Colonel Roosevelt escaped practically without a single ill. In fact, he emerged from the jungles of Africa healthier than he went in.





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